

# University News

MONDAY, MARCH 7, 1988

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**National Apex Body**



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Waltair,  
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Prof. V. Abraham  
DIRECTOR

# UNIVERSITY NEWS

VOL. XXVI

No. 10

Price

MARCH 7,

1988

Rs. 1.50

A Weekly Chronicle of Higher Education published by the Association of Indian Universities

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# UNIVERSITIES OF TOMORROW

B. Sheik Ali\*

The future stands upon the past. I have a theory that demolishes the popular concept of time into past, present and future. There are no three tenses but only two, the past and the future. The present is only a fleeting moment poised between the past and the future, and it is gone even while it is being mentioned or thought about. A citizen's sovereignty lasts only a few seconds until the vote is cast. Looked at from a different angle, the present is only 15 cms. of space and 30 seconds of time, the space where you stand on a precipice of time with never to be retrieved factors behind you and never to be known factors before you. What you would do in those 30 seconds determines the future. Your life is useless if you succumb to circumstances, and your future is bright if you make a mark. This is because the key to future is right now in our hands, which will slip off if we are not careful. We do need wisdom and knowledge for the right use of the key.

That key is higher education which would decide hereafter whether we deserve to exist with dignity or honour or we would be tied to someone else's chariot to do the beast's job. Unless we revamp our entire educational structure, we would be condemned to be the camp followers of others. Science and technology are developing so fast that our grandchildren, if not our children, would be in beeline for tickets to the moon, or at least for a joy ride in the space. In this exciting drama, what is our role would determine our future. The purpose of this paper is to say a few words about what sort of higher education we need to be at par with those who would control the nerve centre of all human progress and nature.

Building for future would first require the realisation that universities of tomorrow would not merely be information service centres, but powerhouses to ignite creative thought. Our main job would be to know how to provoke thought, and how to make our alumni a thinking machine generating new ideas. First we have to determine our objectives or the conceptual framework of higher education for the future. Those objectives should be not merely to preserve, acquire, disseminate and extend knowledge, but also certain other essential concepts such as: promote scientific and rational temper, preserve cultural traditions, inculcate basic human values, develop work ethics, train for living together, cultivate arts, broaden humanities, imbibe skills and enrich the quality of life. Let us remember what education or enlightenment is. It is the process of current generation guiding the future generation into the body of knowledge which is related to the experience of life. Education is the act of sowing the seeds of knowledge which should blossom forth on the horizon of human fellowship, a kind of training to make our youth live harmoniously and graciously with their own fellowbeings. Timeless values are ingrained in the rich experience of the past which should be reinforced with the experience of the present to pass it on to the future. We have to make our universities, the powerhouse of knowledge, the sanctuaries of our inner life, and the think tank of the people.

\*Vice-Chancellor, Goa University.

This could be done if we could manage to make our alumni cultured, creative and committed to resolve the crisis of present-day values. This crisis lies in the fateful alienation of our teachers and students from the realities of life, which has created a dichotomy resulting in the distortions of the methods and goals of national development. Our alumni have been too long cut off from the mainstream of life, as if living in an ivory tower, being lost in the theoretical and abstract aspects of knowledge. Consequently, knowledge is not being transmuted into power. Science remains theory without becoming technology. Look at Japan or even smaller countries like South Korea or Taiwan or Hongkong or Sweden or Switzerland. We have limitless number of scientists and yet we are so poor in technology that we are only in the assembling stage, and not even in fabricating stage, much less in inventing stage.

There is an international yardstick to measure creative genius. The entire sub-continent of nearly 1000 million people, including India and Pakistan, has produced only three Nobel Laureates during the last fifty years (Khurana, Chandrasekhar, Abdus Salam) and all of them outside India. A single university in USA, whether Harvard or Berkeley or MIT has more Nobel Laureates than India has ever produced. Even if you argue Nobel Laureateship is more in giving than in taking, the fact remains that in the history of science, technology and invention since the time of Newton, the number of Indians is so small that they could be counted on the fingers of a single hand. This is in contrast to what England or France or Germany or America or Russia has done, whose record runs into columns and columns of encyclopaedias. Is it not a point to ponder, and excite our consciousness that unless we are stimulated to revive our traditions of Paninis, Aryabhatas, Susrutas, Dhanvantries, Kalhanas, Ibn-e-Khalduns, Ibn-Rushds, Alberunis, Abul Fazls, Tagores, Ramanujans or Ramans, we would be pushed to the wall. What is required is a basic cycle of education by which linkages could be established between higher learning and outside world, which would widen our vision, and may lead to convert our intellect into a dynamo to generate creative thought.

Our universities of future would require scientific method of management. Those who are experts in this line would indicate that success would depend upon six important factors—planning, organizing, staffing, directing, controlling and coordinating. We have ideas but we fail in implementation. For implementation of our policies we would have to take

into account the prevailing social value system, fixing top priorities, understanding the problems of the learning process, creating the necessary intellectual ecology, and providing adequate funds and infrastructure. This kind of planning would automatically demand dynamic leadership which defines the institutional objectives, determines the methodology of plan action, provides the strong will to achieve the goal, and implements the entire programme.

Our main job would be to create the necessary intellectual ecology in our institutions of higher learning, the right atmosphere and temper with a high degree of motivation not to be satisfied with anything but the best. The intention is to make our universities centres of excellence, but every step we take retards rather than accelerates that process. All issues that vitally concern the future would require team work. How to coordinate and bring about unity among the different segments of our structure has become a serious problem. Perhaps a full, free and frank discussion among the alumni on all aspects would be required. Such issues as how to make the system work more efficiently, how to improve decision-making process better and smooth, how to cut unnecessary cost, how to introduce innovative measures, how to motivate acceptance of a change, how to inject better work ethics, how to overcome inertia, which are all sensitive and crucial issues should emanate from below rather than imposed from above. Instead of entrusting the thinking process to small section at the top, it may be far better if the entire teaching community is involved in finding the solution to difficult problems. This body could tackle even more complicated issues such as what social, political, economic, cultural or regional factors impinge upon the successful functioning of our system, how to overcome them, and how to maintain steady tempo of progress.

A university is a social institution which has to interact with the society. Interaction may be helpful or harmful. Many elements may be interested in the growth of the university, but a small element is enough to hurt its interests. To have fifty friends is not enough, but one enemy is too much. What is desirable is a continuous analysis of the situation. The dynamic nature of education requires changes, flexibility and innovative measures, which would all be futile if all members do not effectively cooperate. It is in seeking this cooperation that interaction is necessary, but the whole operation must be performed with great care and skill, or else universities would become the pocket-boroughs of

some vested interests. In the pull and push pressure of some forces, universities would become a machine with more brakes than wheels.

An area of legitimate activity of our universities in the future would be their linkages with industry, agriculture, business, banking, service agencies, research centres, development sectors and so on. In the West much of research is done by the universities for the industry which endows heavily for its projects. This is beneficial both to the university and the industry. It would be cheaper to the industry to get the job done at a marginal cost rather than set up the entire apparatus of research, and it would be beneficial to university whose main business is research, and whose survival would depend upon creative thought.

Autonomy and accountability should form the essential components of our future university system. Freedom of action, non-interference from any quarter, and only that much control from higher-ups as is absolutely essential to ensure well utilisation of grants would help our universities function well. Likewise, autonomy implies accountability. The power, trust and authority vested in a university should never be misused. A recent study has listed the issues that inhibit our growth. They are : rigidity in the system owing to lack of motivation in the structure; centralisation of decision-making; absence of correct data and information; lack of harmony at all levels; erosion in innovative ideas impeding growth; psychological resistance to change; lack of will and strength to implement the schemes; lack of understanding of the dynamics of the system; lack of skill to face the challenges and meet the complexities of the system; cumbersome and obsolete procedures of the system; external pressure, creating instability and nervousness; and absence of long term perspective plans. We have to find answers to these problems in order to liberate our universities from degradation.

These problems could be solved if we are sincere in removing the inhibitions. Suggestions for their removal would be : adopt updated rules, regulations, ordinances and statutes; decentralise power; modernize evaluation system, financial management, and administrative machinery; and introduce curricular reforms. Dr. Yash Pal has rightly said that revising our syllabi is making a dead body move in the grave. An observer has remarked that if anyone is interested in knowing how the British universities looked like a century ago, he has merely to go to any Indian university. No where mobility is so slow, so out-moded and so outdated.

University system is a human management process, and not a push-button system. Hence an element of human approach becomes essential. It is strange that the type of unity and solidarity that exists at low level of human behaviour is absent at a high level. Bad social elements like thieves and goondas have a solidarity of their own but not two enlightened groups, whether of Professors or Doctors or Lawyers. In the university system where interdisciplinary approach is required, such harmony becomes crucial. High research, say in superconductivity, does require co-operation from different disciplines. Somehow in India nothing works without pressure, and if pressure



## UNIVERSITY NEWS

A Weekly Chronicle of Higher Education

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is brought into this sector, the whole structure would collapse. It is the inner urge of the intelligentsia to overcome small considerations and work in team spirit which is wanted. Assigning definite role and responsibilities to well-defined units, identifying the exact areas of their collaboration, the flow of authority, control and co-ordination from an agency that commands respect from all, and more than all, the clear vision of the goal ahead which should subordinate all other considerations might motivate our scholars to achieve something substantial. Otherwise, what D.O. Elliot has said would come true. "You know nothing about politics until you have worked with academics. Nowhere is the political infighting so brutal and vicious, and the reason for that is that the stakes are so low". R G. Ingersoll is constrained to remark that colleges have become places where pebbles are polished and diamonds are dimmed. It is also on record that an American teaching faculty was once described as a random collection of unpredictable academics united in a grievance over car parking. Our anxiety is that such a thing should not happen in India. Carefully laid down principles of work norms religiously observed by upper echelon would build up nice work ethics. Incentives and rewards, appreciation and acknowledgement of good service would pump up high spirits. Simplification of procedures and encouragement of a habit to solve problems rather than create problems would offer the necessary logistics to win the battle of excellence.

The crux of the problem for the improvement of our system is the ability to synthesise institutional goals with goals of the individuals. The trinity that functions in the university—the faculty, the alumni and the administration—pull in opposite directions. Certain teachers are genuinely interested in research, and others, in perks. We forget that happy people are those who are thankful for life's responsibilities rather than for its rewards and prizes. We forget also the fact that to be without some of the things we want is an indispensable part of happiness. In what circumstances Thomas Alva Edison or Ramanujam or Raman worked should be an eye opener to us to realise that a set of circumstances too favourable would rather hinder than help growth.

The most important requirement of a university staff of tomorrow would be sheer efficiency of action, whether it is planning, designing, operating, manufacturing, managing, training or teaching. What the country needs is the **productivity-oriented-efficiency**, and not **production-oriented-efficiency**. What

we mean by this is that we should train our youth to be productive, creative, inventive and original rather than simply get absorbed in production oriented centres. Our best brains have gone abroad, and majority of them have done exceedingly well in production-growth of their employing agencies. This is not a happy situation. This brain drain has effected us in losing the best talents, and this talent is only playing second fiddle to master-brains abroad who exploit them to do all spade work. We are in a triple disadvantage. Our best talent is not available to us; they are helping someone else to get the credit; and we would have to look for ever to others for high-tech. The sooner our institutions of higher learning correct this imbalance the better.

In conclusion it must be said that the atmosphere today is surcharged with high currents of change in higher education, as our nation is seized of the situation. History tells us that progress depends upon three factors, knowledge, skill and devotion. Knowledge generates ideas, skill transmutes ideas into power, and devotion sustains the tempo of work. Nations have risen and fallen in accordance with their ingenuity to learn and improve. A small nation like Japan has become a marvel of science and technology. A country like India with immense potentiality to improve could doubtless be among the powers of the earth in invention and industry, and in knowledge and wisdom, if only we put our heart, mind and soul into it. Dr. Radhakrishnan is right in saying, "If India is to confront the confusion of our time, she must turn for guidance not to those who are lost in the mere exigencies of the passing hour, but to her men of letters and men of science, to her poets and artists, to her discoverers and inventors. These intellectual pioneers of civilisation are to be found and trained in the universities, which are the sanctuaries of the inner life of the nation". Universities of tomorrow should not fail the nation. We must change our mind to change our world. Now and then, not often, destiny gives us a chance. Now is the time. Tomorrow would be too late. Human history has become more and more a race between education and catastrophe. If we miss the chance we would land ourselves in catastrophe. Goal of mankind is knowledge, not pleasure. Noblest men scorn delights and live laborious days. Knowledge too demands labour, where each conquest should be the beginning of a new venture. Let us hope that Our Universities of Tomorrow would rekindle in us also that spark of interest which will consume our entire being in the pursuit of knowledge. Let that tomorrow be today, right now! □

# National Apex Body And State Councils of Higher Education

Anand Sarup\*

## I

The concept of a National Body covering the whole gamut of higher education, cutting across different segments, in the interest of greater cooperation and consistency in policy and for developing interdisciplinary research between agricultural, medical, technical, legal and other types of professional education was mooted in para 5.34 of the National Policy on Education 1986.

This was spelt out in greater detail in the Programme of Action for the National Policy on Education 1986 in August 1986. It was explained in the Programme of Action that the existing lack of a co-ordinative mechanism is becoming a problem, *inter alia*, because new disciplines are emerging for which courses of study have to be evolved keeping in view the need for inputs from related disciplines. There is no forum to deal with this lacuna. In order to remedy this problem, it was proposed to establish an Apex Body at the National level for higher education to deal with policy aspects of higher education, undertake integrated planning and reinforce programmes of postgraduate education and interdisciplinary research. Further details spelt out in the Programme of Action are reproduced below:

"For areas such as agriculture, medicine, engineering, distance learning, etc., separate bodies will be set up. These bodies structured on the lines of the University Grants Commission, along with UGC itself, will oversee all operational aspects of higher education. The details of the legislation and or other means for the establishment of these bodies will be worked out. The major functions to be performed by the apex body would be .

- (a) to advise Government on Policy;
- (b) to coordinate activities of the other bodies in different fields;
- (c) to encourage interdisciplinarity and promotion of interfaces among different areas;
- (d) to allocate resources;
- (e) establishment and management of common infrastructures and institutions; and

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(f) coordination of policy concerning external academic relations."

While the preceding paragraphs describe the mechanism for the operation of the National Apex Body for Higher Education, these do not reflect the philosophical backdrop against which education as a whole, with all its sub-systems, has to be viewed. This aspect was discussed in an earlier document brought out by the Ministry of Education in August 1985 entitled: "Challenge of Education" which sought to define the role of the education system in totality, starting with an emphasis on its institutional character which went beyond its main function of imparting education to pupils. It was stated therein that "the system is expected to generate new knowledge in all fields within the reach of the human mind. In addition, it has to evolve principles, methodologies for the application of knowledge for benefitting society. It is also expected to provide knowledge and skills for solving the problems of development. It must also enable the students to develop an understanding and a perspective of the physical and social environment. Research and development and extension, therefore, have to be accepted as essential ingredients of the educational process".

The second role assigned to education emphasised the socio-economic well-being, competence and creativity of the individual and it proposed that education would result in achieving the following objectives with reference to individual participation :

- (i) Physical, intellectual and aesthetic development of personality;
- (ii) inculcation of a scientific temper and democratic, moral and spiritual values;
- (iii) development of self-confidence to innovate and face unfamiliar situations;
- (iv) creation of an awareness of the physical, social, technical, economic and cultural environment;
- (v) fostering a healthy attitude to dignity of labour and hard work;
- (vi) a commitment to principles of secularism and social justice;
- (vii) dedication to uphold the integrity, honour and foster the development of the country; and

(viii) promotion of international understanding.

Besides promoting the development of the individual attributes described above, education was also expected to assume the responsibility for imparting knowledge about concepts and facts relating to different subjects and take steps for developing skills in the area of languages and communication as also nurturing interest in hobbies, games and sports. It was also meant to inculcate suitable habits in health care, mental application, management of time and conservation of physical, mental and emotional energy.

In relation to development and employment also, education was expected to have the specific role of equipping the pupils with competence, in terms of knowledge and skills, in various combinations, at different levels of understanding, relating to the opportunities of employment in the context of a particular pattern and rate of development.

Thus perceived, education becomes the main instrument for integrating individual into a social system and at the same time it also becomes the most effective means for equalising opportunities and reducing disparities between the human beings so as to ensure that a person belonging to any region, caste, creed, sex or economic strata would have a chance of developing his or her potentials to the full.

Since the interrelationship and the interdependence between different areas of knowledge, specially in applied fields and new disciplines, are wellknown there is hardly any need to argue for the need of a co-ordinative mechanism. It is also well-known that while the protagonists of individual sub-systems may go on laying emphasis on the separate identity and autonomy of their areas of concern, at the ground level the University system is characterised by a majority of bodies under whose umbrella, medical, engineering and agricultural colleges are functioning in large numbers. This disparity between the approach at the Central and State levels has resulted in structural anomalies because of which several institutions and many segments of the students and the teachers have been denied benefits which have become available to some others from one of these sub-systems at the national level. At the same time, individual institutions concerned with engineering or agriculture, with aggressive managers at the top, have been able to get assistance from the University Grants Commission as well as the AICTE or the ICAR.

It is expected that once an apex body gets established, some of the anomalies described above will disappear automatically. However, an Apex Body for Higher Education is necessary to realise the basic goals of education outlined earlier in this paper. We

have no right to expect that public funds obtained from all strata of society should be employed for subsidising and sustaining a system of education whose products have no sense of identity with or commitment to a system of values which is relevant and necessary for the survival and development of this country. Only an Apex Body can rise above the narrow approaches to subject matter specialisations and address itself to policies, management systems, and other issues associated with value orientation. The National Policy on Education 1986 lays particular emphasis on value education and states that :

"The growing concern over the erosion of essential values and an increasing cynicism in society has brought to focus the need for readjustments in the curriculum in order to make education a forceful tool for the cultivation of social and moral values. In our culturally plural society, education should foster universal and eternal values, oriented towards the unity and integration of our people. Such value education should help eliminate obscurantism, religious fanaticism, violence, superstition and fatalism.

Apart from this combative role, value education has a profound positive content, based on our heritage national goals, universal perceptions. It should lay primary emphasis on this aspect."

It is hoped that when the apex body comes up it will, besides being a mechanism for coordination, also become an instrument for realisation of the goals enunciated in the preceding paragraphs.

## II

That there would be a State level planning and coordination of higher education through Councils of Higher Education was stated in the National Policy on Education 1986 and while presenting this proposition, it was also stated that the University Grants Commission and these Councils will develop co-ordinated methods to keep a watch on standards. This was later elaborated in the Programme of Action which recognised that there is, at present, no effective machinery for planning and coordination of Higher Education at the State level and further that there is also no arrangement for interface between the State Department dealing with Higher Education, institution by institution, with the University Grants Commission. In order to fill this gap, it was proposed to set up State Councils of Higher Education as Statutory Bodies. The major functions of the Councils were to include :

- (1) Preparation of consolidated programmes of higher education in each State.

(Continued on page 10)

## Old Wives Tale ?

"Even today in some places girls are not wanted at any stage; when they are babies they are cast away, strangled or starved to death i.e. if they are not destroyed at the foetal stage; their education, when they do get a chance, is interrupted by the universal custom of marriage. In married life she has to endure cruelty of various descriptions, harsh treatment by a cruel or drunken husband or be burned to death by the in-laws in collusion with the husband for not bringing in a larger dowry, and if the husband pre-deceases her, she should not live to mourn but share his company at the funeral pyre", lamented Padma Bhushan Smt Lakshmi N. Menon, former Minister of State in the Ministry of External Affairs, Govt. of India, and added, "If we think that all this is old wives tale, we are mistaken". Making a forceful plea for girls' education while addressing the 52nd Annual Function and Convocation of the Banasthali Vidyapith, Mrs. Menon said, "Education may not be a panacea for all evils, social and economic. But certainly quite a few problems are easy of solution if people know how to read" Excerpts

It is no matter of pride that our country holds a very low position in the matter of literacy. Among the 22 Asian countries, India holds the last place. And in India Rajasthan comes last, especially where women's literacy is concerned. According to the census of 1981 national literacy rate for women in India is only 24.38. This varies from state to state from 68 in Kerala to 11 in Rajasthan. The relation between poverty and illiteracy and health has been pointed out by economists, sociologists and nutrition experts. But our Government thinks and our leaders have expressed the view that illiteracy is no bar to democracy. What is the Evidence? We have conducted 8 general elections involving millions of voters men and women. Most of them are illiterate and the elections were peaceful and the results not bad. Our people in the rural areas were characterised by our erstwhile rulers as placid, pathetic and contented and after 40 years of freedom our people are peace loving and contented and would willingly vote for the lantern, horse, tree and

other equally ridiculous symbols because they are unaware of the broad issues before the country. Perhaps their thoughts and concerns are concentrated on the possibility of the next meal !

Our socialist democratic government has not yet fully realised that the real problem, that faces the country is the problem of hunger and poverty. We cannot get away by saying that our poverty is due to population. In every country manpower is intelligently utilised to eliminate poverty but this can happen only when the masses have a modicum of education. Other countries which came out of colonial rule after we did, are forging ahead by giving priority to mass literacy. When we are told that Ethiopia which began with a 14% literacy in 1982 is expecting to achieve total literacy by 1990, we are not impressed because we have democracy. Today all our expensive schemes, plans and programmes dry up in the desert sands of illiteracy and incompetence. Competence can come only with conviction and conviction arises out of

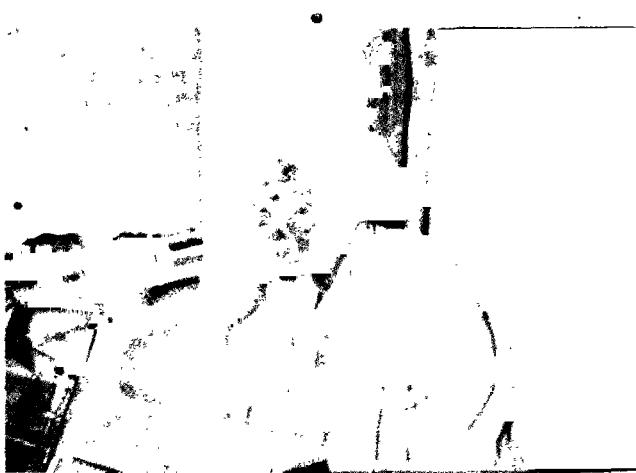
understanding. When that is not present the result can only be chaotic waste of resources. Education may not be a panacea for all evils, social and economic. But certainly quite a few problems are easy of solution if people know how to read.

As it is, our educational system is like an upturned pyramid. The base, primary education, which should be strong and stable is weak and wobbly. Although we claim to be socialist, secular and democratic, our education system has none of the features we claim for it. It is socialism neutralised by reservation, discrimination based on caste, religion and community. In all admission and application forms caste, religion and state is a must. This is because of our policy of reservation for Scheduled Castes and other backward sections. The system is not democratic. Municipal schools which cater to the poorer (masses) sections are usually ill housed, ill-equipped and ill-taught. There is no equality of opportunity. On the other hand, government and private managed schools are beyond the means of the poor and lower middle classes. We, in India are never tired of saying that the wealth of knowledge is the greatest of all wealth. Yet we deny that to our people. education has become elitist and it makes those who cannot afford strangers in their own country. Instead of equality, we have rank inequality at every level of education. Even though we have free primary and secondary education progress is painfully slow. The only solution to the problem seems to be the provision of minimum outlays required for achieving the constitutional goal of universal primary education. Today, the enrolment is as low as seven percent for girls in Rajasthan while, the all India level is as high as

75.5%. This of course does not take into account poverty which is responsible for heavy drop outs, social attitudes and tradition. Even today in some places girls are not wanted at any stage; when they are babies they are cast away, strangled or starved to death i.e. if they are not destroyed at the foetal stage; their education, when they do get a chance, is interrupted by the universal custom of marriage. In married life she has to endure cruelty of various descriptions, harsh treatment by a cruel or drunken husband or be burned to death by the inlaws in collusion with the husband for not bringing in a larger dowry, and if the husband pre-deceases her, she should not live to mourn but share his company at the funeral pyre. If we think that all this is old wives tale, we are mistaken. If we think that India has progressed to such an extent that soon we will be having computer in every village even if we don't have potable water; that we do kill cattle to eat and export meat and starve them while proclaiming India is a land of Ahimsa of the Buddha, Mahavira and Mahatma Gandhi, we are fooling ourselves. Notwithstanding all the education we have received and are still receiving, our life is enveloped in a thick fog of insincerity, dishonesty and cruelty. We have a habit of finding someone else for the responsibility of our mistakes and incompetence. We still blame Lord Macaulay for the system of education devised by him. Yet we have hardly done anything to change the core of the system. Lord Macaulay's aim was to teach English to Indians so that the required number of clerks can be made available for the East India Company. He also wanted to turn Indians into Brown Sahabs. If the success of any scheme is the fulfilment of the objectives, Macaulay was remarkably successful in both,

because, even after forty years of freedom, besides, appointing commissions and committees to make recommendations for reforming the system, very little has been done to overhaul the much maligned existing system. The recommendations were totally or partially ignored, or parts of them were added on to the prevailing system. Today education is in a holy mess—"the fault, dear Brutus, is not in our stars, but in ourselves if we are underlings". What have we done so far? More classes are added, new subjects are introduced without any consideration for the over burdened youngster who is relentlessly goaded to compete and become a rank holder. Is it because we have no faith in our ability to make a decision or afraid to make the break with the past? A change even if it is from the worse to the better is inconvenient that is perhaps the reason why do we start institutions with great ideals and eventually change them into something which ultimately merges into the mainstream. I know of many an institution which has been start-

ed as innovative and experimental, and ultimately becoming the part of the system. Parents and students accept education as a government-job oriented venture. This education is very costly. It costs fifteen thousand to twenty thousand rupees to produce a graduate, four times as much for engineering and other types of professional graduates. The saddest part is that we never use our education to serve the millions who are deprived of even primary education. We use our education selfishly to amass wealth to climb the social ladder and to batter ourselves. Considering that three-fourth of the revenue is from indirect taxes, it is criminal to produce and increase the number of educated unemployed to satisfy the demand for engineers in the USA and doctors to run the British Health System. We sit complaining about brain drain. The tragedy is that the existing system remains practically unaffected. A number of subjects are introduced and learning by rote continues with little relevance to the conditions prevailing in the country or the



Smt. Lakshmi N. Menon delivering the convocation address.

requirements of personnel in the planned economy.

Once in Lok Sabha Acharya Kripalani reminded the members not to worry about the English language in India. As long as children talk of Mummy and Daddy English will remain in India. Today our children are sent to English medium nursery schools and learn to sing Ba Ba Black Sheep....., Twinkle Twinkle Little Star..... Other changes in the education system are glaringly contradictory to the ideals we profess. For example, first we have Doon School, then other public schools from Sanawar in Himachal Pradesh to Lovedale in Ooty, then the central schools professional colleges and academies, and now navodaya schools galore. I would call it a waste because the cost of producing a graduate is 80 times more than giving primary education to a child. So one graduate is denying the right to elementary education to 80 children. The cost is much more as we go into professional courses. One may well ask who are the tax payers meeting this expense. Since the revenue from indirect taxes is estimated as three forth of the total, all of us are tax-payers: the poorest who buys his daily ration as well as the rich who are perpetually involved in tax evasion cases. A radical change is not possible in India. The Indian behaviour in this as well as in all social reform matters, is peculiar. The instinct for borrowing and at the same time clinging to everything and not rejecting what is outworn and outmoded give rise to the conservative attitude and our attempts at educational reform can be expressed by these lines from Omar Khayyam "about it and about but ever more came out, by the same door wherein I went." Here we might pause to find out what really is the objective

of girls education. Long years ago I was talking to Dr. P.K. Ray, the first Indian principal of the Presidency College, Culcutta. When I expressed regret that I did not study logic in my intermediate class, Dr. Ray, who had specialised in philosophy at the Edinburgh University, said, "you are unnecessarily worrying. A woman should train her emotions and not the intellect."

Young as I was and inclined towards feminism, I thought he was wrong. About that time in the early thirties there was quite a debate about differential curriculum for boys and girls. The D.P.I. of U.P. Mr. Mackenzie at a public meeting asked why girls should learn quadratic equations when it would be more useful and helpful if they learn to sing a lullaby. There was a battle of words in the Pioneer, a leading paper in Lucknow at that time. Since then the world has seen vast changes including the awakening among women, agitation by women for equality, the much 'maligned' women's liberation movement's rise and fall, and the failure of the American women to get the equal rights amendment approved by a two third majority of the state legislatures. However, it is true, in certain spheres, women as a class, may have qualities somewhat different those of men. But no generalisation is possible. It is said that a human being has more than 120 inclinations, tastes and talents. We have to deal with them by counselling and guidance so that they may not become misfits. Hence the end of all education for girls ought to be enlargement of her capacity for acquiring wisdom; wisdom being defined as a sense of values or the ability to choose between things that are worthwhile and those that are not. To make such a choice a human being needs a trained conscience to keep his behaviour on the rail and trained heart to teach the head to know

its place and limitations, and trained powers of enjoyment. And of course, girls should be influenced by guidance and counselling when they make their choices. I believe that on the lap of women rests the future of the world; because women can better understand than men that peace and true freedom can be achieved only by way of love.

In a bisexual society human factor should not be under-estimated. Women are as important as men and they are all human beings. To be ignored or forgotten, ill-treated or dishonoured is a bad reflection of the moral and cultural level of the community. It is not in jest that our scriptures have said so many nice things about women. They went to the extent of saying that the gods desert the hearth where women are not honoured.

A girl's education should be complete and must give her unlimited opportunities of development because a girl's life is unpredictable and discontinuous. Her life is one of constant interruptions, a conflict between social attitudes and individual interests. Anything might happen: she may be a beautiful singer and dancer, or both and her in-laws and husband may dislike both. She may be married to a rich businessman who may lose everything in speculation and she may have to face want and discomfort. The only way to face these challenges is to give her a good education which will enable her to face any eventuality.

I would like to say a few words about women's share in the eradication of illiteracy among them. To this day many people, parents and girls themselves do not know why they go in for higher education. Of course, all of them know the ultimate aim of girls education is marriage. Whether you fail or pass obtain rank in the University or Professional examination, woman

by social opinion and attitude is predestined to marry. It is seldom, if ever we come across women who have deliberately rejected matrimony and devoted themselves wholly and completely for the pursuit of excellence in the professions. One often hears the complaint that the money spent on girls' professional education is wasted if she settles down to a married life. This is a one sided evaluation I know of doctors who after medical education preferred to become journalists and farmers, engineers, hoteliers and professors who ended up as traders and businessmen. This condition of square pegs in round holes is the result of absence of guidance and counselling at the appropriate stage. But a woman who is educated is a great asset by becoming a better mother, better citizen and a liberated human being. I have no complaints if all educated women do not enter the professions. I recall an incident mentioned in Flexner's 'Universities : British, American and German'.

Alice Palmer the wife of the President had never learned cooking but she was able to turn out a most delicious cake and Bridget, the maid who was looking on said 'this is what I call education, being able to do something without training'.

Earlier I had indicated the cost of primary education vis a vis higher and professional education. Those of us who have had the advantage of education should realise one thing. We owe a debt to our society because most of the funds come from the poor who do not know their entitlement and the denial to which they are subjected. A debt should always be honoured. We are told that three fourth of the revenue comes from indirect taxes.

Five years ago nine all India women's organisations decided that we should challenge the evaluation of the World Bank that by 2000 AD India will have the largest number of illiterates in the world. It awakened in our organisations a sense of our responsibility to work

against this shameful state of affairs. Long ago in 1922 Gandhiji had said that mass illiteracy is a sin and a shame. We decided that by mobilising the goodwill of the nation, we should be able to achieve total literacy for women by 2000 AD. Hence we constituted an all India committee for the eradication of illiteracy among women. Now we are engaged in seeking public support to fight this menace of ignorance among our women. Government action is slow and is not commensurate with people's enthusiasm. We think that it is the bounden duty of all men and women, all boys and girls and schools and colleges to take a pledge to make atleast two other literate women. Where the Government finds the task difficult, we, the people, must show that there is nothing so effective or of permanent value as *janasakthi*. In conclusion, I would make a personal appeal to bear in mind our duty as citizens to our country and our concern for women who are usually and officially classified with the backward sections. [ ]

## National Apex Body . . .

*(Continued from page 6)*

- (2) initial scrutiny of the development programmes of universities and colleges.
- (3) assistance and advice to UGC in respect of standards.
- (4) assistance to State Governments in determining the block maintenance grants.
- (5) encouragement of the programmes of autonomous colleges.
- (6) monitoring the progress of implementation of programmes and assessment of performance of institutions.
- (7) advising the State Governments in setting up new institutions.

It seems self-evident that there may be no need for State Councils of Higher Education in States which have only a few universities. On the other hand, those States which have a large number of universities need to have State Councils because, in the absence of these, the policy formulation function does not take place and instead ad hoc decisions are taken, institution by institution, resulting in those who already have getting more at the expense of the growth of new or not so impressive institutions in educationally backward areas.

Sometime an argument is put forward that by

setting up State Councils of Higher Education or an Apex Body at the national level, the autonomy of the new institutions might be curtailed. While there is every possibility of further curtailment of the autonomy of individual institutions, but it will not take place because of the setting up of these mechanisms. This will happen mainly because the basic concept of accountability has not been accepted by either educational institutions or various sections associated with them. Very few institutions have taken the initiative to develop criteria for performance audit. Almost nobody is raising the issue of social costs and individual benefits. In other words, "the business is continuing as usual". It will continue as such as long as these enclaves of agricultural, medical, engineering and general education continue to operate with a world view determined not by goals of education but by the subject matter of teaching.

It is only a set up like the National Apex Body which can take a holistic view of education and lay down appropriate procedures to bring about a qualitative change in the education system. Such a body will be able to do so because it will not be concerned with individual institutions or individual sub-sections of the educational system. □

# The IQ Controversy

The Institute of Psychology of Jnana Prabodhini, Pune, recently organised a national seminar to discuss various problems related to the IQ controversy. Inaugurating the seminar, Prof. Devdatta Dabholkar, Ex-Vice-Chancellor of Poona University, observed that the IQ controversy, touched politics, economics, sociology and all the other social sciences. The international debate had so far been useful because it had helped clarify some of the concepts and highlight research issues. He said that the key to the solution of the IQ controversy could be found in the social role of the intellectuals. Referring to the ancient rishis and modern intellectual giants like Russel and Einstein, he remarked that the message of their life was that if one was endowed with superior abilities one did not get a superior right to rule but a superior opportunity to serve.

Dr P.V. Sukhatme, President of Jnana Prabodhini, in his keynote address on the theme 'Man Environment Interaction' quoted evidence from his eight village project funded by the Department of Science and Technology and emphasised that a child is born with an innate capacity to learn and it is the responsibility of the school to provide the appropriate environment as tool for achieving living standards suited to culture, needs and resources. He referred to the experimental work which showed that careful selection of environmental conditions at critical periods in the development of an individual could give a rise to a wide array of phenotypes so different that they appeared as if they were gene mutations. He concluded that man and environment synergistically interact to regulate man's

behaviour within limits defined by their co-variance.

Dr. Kunnankal, Consultant, Ministry of Human Resource Development in his valedictory address observed that constant efforts were necessary to better utilise the intelligence by taking into account its social relevance.

The seminar was held in five sessions and the topics discussed included (1) Review of the IQ controversy; (2) IQ controversy in the light of various theories of intelligence; (3) Role of intelligence testing in IQ controversy; (4) Nature of Intelligence; and (5) Role of people of high intelligence in national progress.

Our 125 scholars from various branches of knowledge, namely, heredity, medicine, psychology, education, statistics, philosophy, ayurved and yoga participated in the seminar where over 30 research papers were presented.

## UGC Funds for Labs and Libraries

The University Grants Commission (UGC) is reported to have decided to grant Rs. 2.5 lakhs to each eligible college and Rs. 20 lakhs to each university, for providing teaching laboratories, as they were essential for scientific study. According to Prof. Yashpal, Chairman of the Commission, this facility was being extended to the Universities by the Commission, although it is primarily the responsibility of State Government to look after them. The Commission, he said, had embarked on some major projects known as inter-university centres, for better interaction between students and teachers

of different universities who would be grouped together under each centre. One such centre had been set up in Delhi for nuclear science and another at Pune with a giant radio wave telescope for astronomical studies.

Among other things, the Chairman said efforts were on to boost libraries in the universities and help them to acquire books and journals which had become costly. In this connection, he said, Rs. 7 to 10 lakhs would be paid to each university and Rs. 25,000 to each college.

Regarding setting up of sports complexes in universities, proposals to the tune of Rs. 200 crores had been sent for financial assistance to be spread over Seventh and Eight Plan periods. He said the Commission would soon start academic staff colleges for interaction of teachers and for better understanding of professional obligations under coordination. This is a place where teacher and taught would play a new role, he said. With regard to application of revised UGC scales to college teachers, the Chairman said Union Government would issue notification soon which would also bring in librarians and physical directors under its purview.

## U.S. Award for Dr. Sengupta

Dr. P.R. Sengupta, former director of the North Eastern Regional Institute for Science and Technology, has been nominated for the University of Louisville Grawemeyer Award in Education for 1983. The award which carries a prize money of \$150,000 is given in recognition of outstanding ideas in education, ideas that have the potential to produce

significant improvements in educational practice or attainment.

Dr. Sengupta has designed an academic programme for technical education consisting of three successive modules of about two years each. The first module will end at the level of a technical vocational certificate, the second at the diploma level while the third module will lead to a bachelor's degree. He has also suggested that refresher courses of six months' duration each should also be conducted.

According to Dr. Sengupta each module will provide a terminability corresponding to an occupational level while at the same time providing an entry point to the next higher module in the academic programme, finally leading to a degree in engineering or technology after completion of the third module.

He has also suggested two separate sets of academic programmes for continuing education at the level of craftsmen, technicians and engineers which will consist of learning modules of six-to-twelve-week duration for updating the knowledge and information base in different fields of technology.

### Postgraduate Courses in Psychiatry

Bangalore University proposes to start postgraduate courses in psychiatry from September this year. This was disclosed by Dr. G.N. Reddy, Director of the National Institute of Mental Health and Neuro Sciences (NIMHANS). He said, as part of its plan to participate in the national mental health plan, the NIMHANS had trained 130 doctors of primary health centres all over the State. He stressed the

need to provide mental health care not only in hospitals but also in small health centres in rural areas.

Highlighting the increased responsibilities of institutions of its kind, Dr. Reddy said the NIMHANS was now entering a new phase of specialisation and research. He said the World Health Organisation was collaborating with the NIMHANS in research activities in various fields. The institute's collaboration with US agencies had also been extended by three years, he said.

### New Syllabus in Economics

The University Grants Commission (UGC) will implement a new Indian-oriented curriculum in Economics at undergraduate and postgraduate levels from the ensuing academic year to make the subject more compatible with the

country's present needs. The new curriculum was framed by two committees of experts from various universities as per UGC guidelines. According to Prof. R. Bhardwaj, Coordinator, Curriculum Development Centre (CDC), Bombay University, each course has been organised in a series of smaller modules, an integrated focus of which would form a specific paper under considerations. These modules, core as well as optional have been provided with a preamble, he said.

The U.G.C. established C.D.C. in 1985 to prepare model curriculum to make higher education a national investment.

### Research Methodology in Geography

The Department of Earth Sciences, Manipur University, organised a two-week Training Course in

### ASSOCIATION OF INDIAN UNIVERSITIES

notes that several misleading advertisements recently appeared in the newspapers in the name of the following institutions whose qualifications are not recognised in India :

International University of Missouri  
University of East Georgia  
New Port University  
Stanton University

These advertisements misrepresent the facts and create an impression that their courses are accepted by Indian universities. As these institutions are not listed in the accredited institutions of post-secondary education in their own country, the question of their recognition in India therefore does not arise. The advertisements appear for various correspondence courses in the field of management and allied disciplines, the titles of which are frequently changed to attract a large number of students. Local office contact in India is also changed from time to time.

Students, Teachers and others are welcome to seek information on the status of any university/institution from the Deputy Secretary (Evaluation & Information), Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110002.

**Research Methodology in Geography** from the 2nd to 15th February, 1988. The Training Course was inaugurated by Professor I.R. Babu Singh, Dean, School of Humanities, Manipur University while Shri E. Kunjeshwar Singh, Commissioner (Finance and Revenue), Government of Manipur, delivered the valedictory address. During the course of the training programme the participants, mostly college teachers and research scholars in Geography from Manipur and Mizoram, were exposed to the recent trends and research methods in geography and quantitative and cartographic techniques and problems of geographical researches with special reference to the north-eastern region.

### **Tokyo Award for JNU**

The video film "Japanese Language Teaching in JNU" has been awarded the Special Educational Programme Prize in a video film contest held in Tokyo. Over 50 entries from 18 countries participated in the contest. The participating countries included China, Nigeria, Argentina, Indonesia, Saudi Arabia, Sri Lanka, Thailand and Singapore. The judges included eminent video experts from Japan Broadcasting Corporation (NHK), All Japan Radio, Television Engineering Services Corporation, Japan Telecom Engineering and Consulting Services, International Television Association, Japan and Sony Corporation.

The video film was produced at the Language Lab Complex in the School of Languages, jointly by Mr. A. Chattopadhyay and Er. V.K. Sahni.

### **Anna Varsity Water Resources Centre**

The High Level Technical Committee on Hydrology (HILTECH) Ministry of Water Resources, Government of India, has identified the Centre for Water Resources of this University as one of the participating Organisations in the National Hydrology Project on Water Quality. A sum of Rs 62.37 lakhs spread over a period of 5 years has been sanctioned for the University

in this behalf. The project envisages creation and strengthening of laboratories, staff, buildings, training and computer facilities for studying, the typical water quality problems.

The UGC has also identified the Centre for Water Resources to receive special financial support under the COSIST programme for strengthening postgraduate teaching and research in Ground Water Resources and Water Resources Management.

## **News from Agril. Varsities**

### **Senior Arab Scientists Visit HAU**

An 18-member delegation of senior scientists and administrators from 9 Arab countries, namely, P.D.R. Yemen, Somalia, Jordan, Morocco, Sudan, Tunisia, Libya, Algeria and Syria accompanied by Dr. Maharaj Singh, D.V. Director General (Education), Indian Council of Agricultural Research New Delhi, visited Haryana Agricultural University recently. The purpose of the visit was to see the organisational structure, functions and programmes of the university and to study the various ways and means by which the agricultural institutions are able to boost the economy of the Arab countries.

The members of the delegation visited the constituent colleges, research farm, Animal farm, Seed Technology Laboratory and the agricultural museum of the College of Agriculture. They also held discussions with the Deans and Directors and the Vice-Chancellor, Dr. Har Swarup Singh, on the mutual cooperation of India and Arab countries and also the system of transfer of technology.

### **New Test for Theileria Diagnosis**

Dr. A.S. Grewal, Professor of Immunology in the College of Veterinary Science of Punjab Agricultural University has developed a new and improved immunological test for the diagnosis of Theileria infection in cattle. The test is highly sensitive, specific, simple to do and adaptable to mass screening of blood samples in a shorter time. The test is based on the modern technology of Visual-Dot System of Enzyme-linked Immunosorbent Assay (Dot-ELISA) which is more versatile and economical amongst various ELISA systems. These characteristics of the test make it practical for the Tick Borne Diseases Research Team to undertake mass screening of blood samples from animals in the field.

According to Dr. Grewal, the industrial significance and field applications of this test would be to provide information on incidence prevalence of theileriosis in cross-bred cattle, buffalo and indigenous cattle; rate of occurrence of new infections from season-to-season; role of local cattle and buffalo as reservoir of infection for cross-bred cattle; assessment of demand and practical significance of Theileria vaccine for its control; monitoring vaccination trials in the field; correlation between infection and productivity of the animals.

# Sports News

## Freedom Forty Hockey Match

A match between Indian Universities Hockey team and a team consisting of former Olympians was organised at Bangalore on February 14, 1988 to mark the fortieth anniversary of our independence. The underlying idea was to acquaint the young players

with the techniques of the game employed by senior players in the yester-years. As expected the maturity of the former international players prevailed upon the dash of the youth and they clinched the match by a narrow margin of one goal.

## News from UGC

### INSAT-1B Programme of UGC

Between 10th March to 30th March, 1988 the following schedule of telecast on higher education through INSAT-1B under the auspices of the University Grants Commission will be observed. The programme is of one hour duration every day from 12.45 p.m. to 1.45 p.m. (Repeated from 4 p.m. to 5 p.m.) and will be available on the TV Network throughout the country. For the viewers in Delhi and surrounding areas these programmes can be seen on the second channel.

#### 10.3.88

- “Energy and Architecture”
- “Early Andhra Coins”

#### 11.3.88

- “A World Out of This World”
- “View From Space—I”
- “Sun as a Nuclear Reactor—Solar Technology Today”
- “To the Edge of The Universe”

#### 12.3.88

- “Santoor—An Introduction”
- “Music Beyond the Frontier”
- “Personality Development—Nritya-I”

Nritya-II”  
“East Meets West”

#### 20.3.88

No Telecast

#### 21.3.88

- “Rectifiers”
- “Reflections on Waves”
- “The Fictitious Forces: Their Origin”

#### 22.3.88

- “Introduction to Marketing—II”
- “Gaining Employment—II”
- “Understanding Money—I”

#### 23.3.88

- “Dosage Compensation”
- “Cell Structure”
- “Just 45 Minutes”

#### 24.3.88

- “History Before History”
- “A Case History of a Volcano”
- “Research for Tomorrow”

#### 25.3.88

- “Space Technology”
- “The Sun as a Nuclear Reactor—III Solar Technology for Tomorrow”
- “Solar Energy: The French Way”

#### 26.3.88

No Telecast

#### 27.3.88

No Telecast

#### 28.3.88

- “Filters”
- “Molecules at Large”
- “Science Learning Begins at Home”

#### 29.3.88

- “Karamvir Bhauraao Patil”
- “Nikolai Lemonosov”
- “Contemporary Artists”

#### 30.3.88

- “Somnacional Variation”
- “What’s Wrong With Me?”
- “University Round Up”

# AIU Library

Established in 1965, the AIU Library has acquired over the years a valuable collection of books and documents on Higher Education. Among the topics prominently represented are Educational Sociology, Educational Planning, Educational Administration, Teaching & Teachers' Training, Examinations, Economics of Education and Country Studies. Developing fields of Adult Education, Continuing Education and Distance Education, and Educational Technology are also well stocked. The Library is particularly strong in its collection of reports whether they are on the setting up of different universities or on the state of Higher Education. Files of Annual Reports of different universities are also maintained. Readers are kept informed of the latest acquisitions through our column 'Additions to AIU Library'.

The Library also receives about a 100 periodical titles on Higher Education. All these are indexed regularly and a select list appears every month as 'Current Documentation in Education'.

Doctoral Degrees awarded during the preceding month are reported as 'Theses of the Month' while registrations made for such degrees are flashed as 'Research in Progress'. Bibliographies are also compiled and supplied on demand.

Research scholars and students of education are welcome to use these resources. The Library is open from 9-00 a.m. to 5-30 p.m. Monday through Friday. Access can also be had through inter library loan for which requisition must be made through your Librarian.

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## THESES OF THE MONTH

### A List of Doctoral Theses Accepted by Indian Universities.

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##### Philosophy

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2. Samanta, Bimalendu. *The concepts of meaning, verification and necessity as in Hume and logical positivism*. Burdwan. Prof. Mrinal Kanti Bhadra.

3. Singh, L. Bhagyachandra. *A critical study of the religious philosophy of the Meiteis before the advent of Vaishnavism in Manipur*. Gauhati. Dr. D.K. Chakraborty.

##### Language & Literature

##### English

1. Bhattacharya, Sudipta. *Individual consciousness and group consciousness in the novels of Virginia Woolf*. Andhra.

2. Jha, Pashupati. *The Face at the end of the Flare: A study of Fear in Sylvia Plath*. IIT Delhi. Dr. (Mrs) Sunita Jain.

3. Mahmood, Nazira. *Female character in Jane Austen*. AMU.

4. Pande, Rajni. *Thematic study of Emily Dickinsons poems*. Bhopal. Dr. A.N. Gupta.

5. Patil, Anand B. *Western influence on Marathi Drama, 1818-1947*. Shivaji. Dr. P.R. Khet.

6. Puri, Usha. *Love and marriage in the fiction of Zora Neale Hurston, Ann Petry and Toni Morrison*. Rajasthan. Dr. (Mrs) Jasbir Jain.

7. Pushpakumari, V.K. *Feminism in the novels of Indian-English novelists, with special reference to the novels of Kamala Markandaya, Nayantara Sehgal, Ruth Prawi Jhabvala and Anita Desai*. Karnataka. Dr. (Smt) Sarojini B. Shintri.

##### Sanskrit

1. Kumar, Sunita. *Nature and function of Sakti in Kashmir Saiva Darsana*. Jammu. Dr. Uma Pandey.

2. Vani, B. *A study of Sangita Chandra of Vipradasa*. Osmanian.

##### Hindi

1. Chaube, Vibha. *Ghananand ke abhivyanjana shilp ka anusheelan*. Ravishankar. Dr. (Smt) Mridula Sharma.

2. Gupta Praitha, Pura prateek yugeen sandarbh aur Dr. Lakshminarayan Lal ke natak. Ravishankar. Dr. S.J. Kekre.

3. Jain, Sandhya. *Dr. Ramkumar Verma ke karya ka anusheelan*. Devi Ahilya. Dr. G.N. Tripathi.

4. Jain, Sarita. *Narmada Sambhag ke Bundeli Bhasha kshetron kee sahityik parampara ka anusheelan*. HS Gour. Dr. Balbhadra Tiwari.

5. Khare, Kamini. *Varshari Rajya kee sahityik parampara*. HS Gour. Dr. Balbhadra Tiwari.

6. Mishra, Jyoti. *Chhayavadutt prabandh karyon mein itihasik, sanskrityik darshnik tattva ka anusheelan*. Ravishankar. Dr. Ganesh Khare.

7. Mishra, Lakshmi Kant. *Tulsi aur Jayasi ke bhasha ko tulnotmak adhyayan*. Magadh. Dr. Gadadhar Singh.

8. Muhamad Tayab Hussain. *Bhilsari Thakur: Vyaktitva evam krititva*. Bihar. Dr. Dhirendra Bahadur Chand.

9. Satija, Durga Devi. *Jayasi ke karya mein chitrit sama* ka anusheelan. HS Gour. Dr. R.C. Tripathi.

10. Sharma, Kusum Lata. *Rameshwari Lal Khandelwal ke karya ka swachchandatavadi mulayankar*. AMU.

11. Sharma, Sandhya. *Adhunik Hindi ke pramukh mahakaryon mein premiataiva nirupan*. HS Gour. Dr. L.N. Dubey.

12. Thakur, Rajlakshmi. *Mahila upanyakaron kee rachnaon mein premabhivyanjana*. Ghasidas. Dr. Jagmohan Mishra.

##### Urdu

1. Akhtar, Nurus Sayeed. *Studies in classical Urdu literature: Critical edition with preface of Shah Masnavi Behram Gor Bano Hush and Diwan-i-Samjhoo*. Dr. Litt. Nagpur.

2. Khan, Zameer Ahmed, *Mirza Musharraf Yar Khan Sharaf*: *Hayat aur Shairi*, Durgavati, Shri Abdul Baqui.

3. Khurshed Anwer, *Oakkani Urdu Qasayid kee mukammal aur tauziki farhung*, AMU.

4. Khushhal Ahmed *Urdu mein Bachchon ka adab* Jamia, Dr. Muzaffar Hanif.

5. Osman Ali *Amjad Hyderabadli Life and works*, Osmania.

6. Zaidi, Syed Ali Baqar *Editing the Diwan of Mohd. Taqi Hawar*, AMU.

#### Bengali

1. Patra, Ranjushree *Tarasankarer upanyase samajer abokshyayer rap*, Burdwan Prof. Bijit Kr Dulta.

#### Persian

1. Swami, Dharam Dev *A critical edition of Tabqat-e-Shahjahani*, Jamia Prof. Shoaib Azmi

#### Arabic

1. Mohammad Salabuddin Umar: *Contributions of Mohd Hussain Hatto (d. 1956) to Arabic prose literature A critical study* AMU.

#### Tamil

1. Balakrishnan, S *A critical study of Pattinaihar's works* Madurai

#### Telugu

1. Nagamalleswara Rao, P. *Study of the place names of Ongole Taluk*, Nagarjuna.

2. Prameela Devi, M.S.R. *Folk musical and lyrical trends in Annamacharya's Sankeerthanama* Nagarjuna

3. Subba Rao, C *Life and works of the poetbrothers of Palnadu*, Nagarjuna

#### Geography

1. Jagdish Prasad *Planning for integrated rural development programme, Sri Madhopur Tehsil Sikar, Rajasthan* Dr R B Singh

2. Nater Singh, *Geomorphology of the Tawi Basin*, J & K. Dr H S Sharma

#### History

1. Golhar Chandrashekhar Dadaji *Peshwa Balaji Vishwanath Kaaya ta kamgiri* Nagpur, Dr (Kum) S.Y. Kothekar.

2. Jain, Mahavir Prasad *Peasant landlord relationship in Mewar, 1880-1949* Rajasthan, Prof M S. Jain.

3. Jyotish, Vinod *1857 ke swatantrata andolan mein Jhansi kee Rani Lakshmi Bai aur Avadh kee Begum Hazrat Mahal kee bhumikaon evam yogdan ka tulnatmak adhyayan*, HS Gour Dr G S. Tripathi

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# Institute for Plasma Research

(An Autonomous Institute of Dept. of Science & Technology)

GOVERNMENT OF INDIA

Near Indira Bridge, Gandhinagar Highway  
BHAT, GANDHINAGAR-382 424

ADVERTISEMENT No. 02/88

## SENIOR ENGINEERING POSITIONS AT IPR

The Institute for Plasma Research has been recently established by the Department of Science & Technology as an autonomous research institute to lead the country's magnetic confinement high temperature plasma fusion research programme. A research device of the tokamak type, christened ADITYA is in the final stages of assembly and commissioning. The technical subsystems of ADITYA include large toroidal ultra high vacuum system; equilibria magnetic field coils, coil cooling system, thyristor converter equipments for DC power for magnetic computer based data acquisition and control equipments.

IPR is looking for competent and result oriented engineering staff to lead the various technical groups. The requirements are as follows :

### Engineer SC/SB (Computer Software)

Tokamak "ADITYA" is to be completely operated and controlled under computer operated data acquisition and control system based on VAX-11/730 system and CAMAC based serial highway driver. The incumbent is expected to develop computer software in both higher level and assembler languages for the system.

### Engineer SB (Mechanical)

The incumbent is required to possess adequate knowledge of commissioning and maintenance of Air Conditioning Plants and ensure prompt execution of the jobs incidental to and connected with this item of work.

### Qualification and Experience

Engineer SC (Computer Software) : M.E. M. Tech./M.Sc. Engg Fresh with specialisation in Computer Software or MCA/B.E./B. Tech./B Sc. Engg M.Sc.+3 yrs experience or B.Sc. Diploma Holder +9 yrs experience. Engineer SB (Computer Software) : B.E. B. Tech. B.Sc. (Engg) MCA fresh with specialisation in Computer Software.

Engineer SB (Mechanical) : B.E. B. Tech 'B.Sc. (Engg) with specialisation in Air Conditioning and Refrigeration. Other things being equal experienced candidates would be preferred for all the above positions.

### Scale and Pay

Engineer SC : 2200-75-2800-EB-100-4000 (Total Rs. 3036.00)

Engineer SB : 2000-60-2300-EB-75-3200-100-3500 (Total Rs. 2810.00)

Higher starting salary in the scale in exceptional cases may be considered. Institute offers excellent career opportunities to result oriented staff. In addition to pay and allowances, perquisites like contributory provident fund, gratuity, contributory medical scheme, LTC, subsidised transport and canteen facilities are admissible as per Institute rules.

Age Limit : 35 years.

**General Conditions** : Out-station candidates called for interview will be paid to and fro second class rail fare by shortest route, on production of satisfactory proof of journey. Those who are interested may send their typed application on plain paper in the following format in English along with the recent passport size photograph, duly pasted on the application alongwith attested copies of certificates in support of educational qualifications, experience, duties performed and salary drawn etc.

(a) Post Applied for ; (b) Name (in block letters), (c) Place and Date of Birth, (d) Age, (e) Marital Status, (f) Present and Permanent Address, (g) Qualifications, starting from SSC onwards, indicating exam passed, year of passing, division, percentage of marks obtained, subject, board/university, (h) Experience, indicating nature of work in detail, name of the organization, period, scale of pay and total salary drawn. (i) Signature with date, directly to Chief Administrative Officer, Institute for Plasma Research on the above address, within 15 days of the publication of this advertisement, superscribing the envelope with advt. No. and the post applied for. Candidates employed in Govt/Quasi Govt Public Sector Undertaking should forward their application through proper channel. The IPR reserves the right to reject any application without assigning any reason. Incomplete applications are liable to be rejected. No interim correspondence will be entertained.

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**DEFENCE RESEARCH &**  
**DEVELOPMENT ORGANISATION**

**Openings for a Challenging and Rewarding Career in the Field of  
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The DRDO undertakes research and development projects for upgrading the technology to meet the multitudinous requirements of fighting forces of the country. Excellent career opportunities affording a challenge and rewarding work experience in different streams of disciplines exist. There are about 40 laboratories/establishments located all over the country equipped with latest R & D facilities. Labs are located in Delhi, Bangalore, Hyderabad, Pune, Madras, Bombay, Dehradun, Cochin, Vishakhapatnam, Balasore etc.

**Applications are invited for the following positions :**

**Scientist 'F' (Rs. 5100-6300) - 2 Posts**

**Item No. 1 Defence Research Laboratory, Tejpur (Assam) - 1 Post**

The Director is required to provide scientific leadership to the laboratory engaged in research, design and development activities connected with high altitude agri-horticulture, animal husbandry, forestry, entomology, utilization of non-conventional energy sources and allied subjects. The scientist is required to coordinate and integrate the scientific, technological and developmental efforts of lab and its detachments located in remote and forward areas of Arunachal Pradesh and West Bengal (160 m to 3200 m above MSL). The Scientist should have proven ability in one or more of above fields and be able to inspire team efforts through his leadership qualities. The scientist should be able to interact with Agricultural Research Institutions, Universities and other R&D institutions in the country and have aptitude to work amidst troops and tribals in the Himalayas.

**Essential Qualifications:** (i) At least second class Master's degree in Agriculture Horticulture from a recognised university or equivalent. (ii) Ten years' research design development experience in the field of agriculture horticulture forestry in temperate climate in addition to knowledge of crops breeding, production/processing and utilisation of non-conventional energy sources, of which 2 years should be in a responsible capacity, to guide teamwork in the above-mentioned areas at high altitudes. **Desirable Qualifications:** Ph.D. in Agriculture Horticulture with specialisation in Vegetable crops.

**Item No. 2 (Naval Chemical and Metallurgical Laboratory, Bombay)- 1 Post**

**Essential Qualifications:** (i) At least second class Master's degree in Chemistry/Polymer Chemistry/Biology or Bachelor's degree in Metallurgical Engg. from a recognised university or equivalent. (ii) Ten years' research design, development experience with proven R&D capabilities by way of patents/publications in reputed journals in one of the following areas, of which 2 years should be in the capacity of a senior scientist/R&D manager in a reputed research and development organisation: (a) In Electrochemistry with specific application in cathodic protection and electro-chemical techniques or in the area of fuel cells: OR (b) In polymer chemistry with emphasis on characterisation and technological application of special purpose polymers like graft co-polymers, IPN polymers etc. OR (c) In Marine Biology with special reference to growth of films and marine bio-corrosion of engineering materials; OR (d) In Physical/Mechanical metallurgy of steels, welding technology and corrosion of steels. **Desirable Qualifications:** Ph.D. in Chemistry/Polymer Chemistry/Biology or Master's degree in Metallurgical Engg.

**Scientist 'D' - (Rs. 3700-5000/-) - 1 Post**

**Item No. 3 - (Defence Research & Development Laboratory, Hyderabad)- 1 Post**

**Essential Qualifications:** (i) At least second class Bachelor's degree in Electronics/Electronics and Telecommunications/Computer Science/Electrical Engg. from a recognised university or equivalent. (ii) Eight

years' research and development experience related to the design and development of computer hardware, digital systems, microprocessor-based systems and the development of software networking and data communications. **Desirable Qualifications** : Master's degree in Electronics/Electronics and Telecommunications/Computer Science/Electrical Engineering from a recognised university or equivalent.

**Scientist - C (Rs. 3000-4500) - 11 Posts**

**Item No. 4 - (Defence Research and Development Laboratory, Hyderabad - 1 Post**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Mechanical/Aeronautical Engineering or Master's Degree in Physics from a recognised University or equivalent. (ii) Four years research/design/development experience of Non destructive testing of composite materials by X-Ray Radiography and Ultrasonic techniques. **Desirable Qualifications** : Master's degree in Mechanical/Aeronautical Engineering or Ph.D. degree in Physics.

**Item No. 5 - Computer Engg. (Defence Research and Development Laboratory, Hyderabad) - 3 Posts.**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Electronics/Electronics and Telecommunications/Computer Science/Electrical Engg. from a recognised university or equivalent. (ii) Four years' research experience in the design and development of Computer Hardware, digital systems, microprocessor based systems with knowledge of multiprocessor systems. Computer networking and data communications. **Desirable Qualifications** : (i) Master's degree in Electronics/Electronics and Telecommunications/Computer Science/Electrical Engg.

**Item No. 6 - Electronics Engg. (Defence Research and Development Laboratory, Hyderabad) - 2 Posts.**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Electronics/Electronics and Telecommunications/Computer Science/Electrical Engg. from a recognised university or equivalent. (ii) Four years' research experience in the design and development of systems software for mainframe or microprocessor based systems. **Desirable Qualifications** : (i) Master's degree in Computer Science Electronics Electronics and Telecommunications/Electrical Engg. (ii) Knowledge of UNIX operating system and compiler design :

**Item No. 7 - Electrical Engg. (Interim Test Range, Balasore) - 1 Post.**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Electrical Engg. from a recognised university or equivalent. (ii) Four years' research, design and development experience in electrical cable laying and terminal box design with cable jointing using heat shrink techniques and other related latest technologies. **Desirable Qualifications** : (i) Master's degree in Electrical Engg. (ii) Knowledge of cable test equipment and fault finding.

**Item No. 8 - Physics - (Defence Science Centre, Delhi) - 1 Post**

**Essential Qualifications** : (i) At least second class Master's degree in Physics from a recognised university or equivalent. (ii) Four years' research design development experience in the area of lasers of which one year must be in laser spectroscopy. **Desirable Qualifications** : Ph.D. in Physics Lasers.

**Item No. 9 - Radiation Medicine - (Defence Laboratory, Jodhpur) - 1 Post**

**Essential Qualifications** : (i) MBBS degree - a medical qualification included in the First Schedule or the Second Schedule or Part II of the Third Schedule to the Indian Medical Council Act 1956 (102 of 1956). Holders of Medical qualifications included in Part II of the said Third Schedule should also fulfil the conditions specified in sub-section (3) of Section 13 of the said Act. (ii) Diploma in Radiation Medicine. (iii) Three years' practical experience in radiation medicine or radioisotopic applications.

**Item No. 10 - Mechanical Metallurgical Engg. (Naval Chemical and Metallurgical Laboratory, Bombay) - 1 Post**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Mechanical Metallurgical Engg. from a recognised university or equivalent. (ii) Four years' research and development experience in the areas of solidification, structure-property correlation in cast irons and in the use of sophisticated equipment for micro-structural evaluation. **Desirable Qualifications** : (i) Master's or Ph.D. degree in Metallurgy/ Mechanical Engg., (ii) Some published work in reputed journals in the above areas.

**Item No. 11 - Metallurgical Engg. - (Naval Chemical and Metallurgical Laboratory, Bombay) - 1 Post**

**Essential Qualifications** : (i) At least second class Bachelor's degree in Metallurgical Engg. from a recognised university or equivalent, (ii) Four years' research and development experience in the areas of phase diagrams, thermodynamics, heat treatment of steels and computer applications in Metallurgy.

**Desirable Qualifications :** (i) Master's or Ph.D. degree in Metallurgical Engg., (ii) Some published work in reputed journals in the above areas.

**Scientist 'B' - (Rs. 2200-4000)—1 Post**

**Item No. 12. Physical Chemistry - (Interim Test Range, Balasore) - 1 Post (UR)**

**Essential Qualifications:** At least second class Master's degree in Physical Chemistry from a recognised university or equivalent. **Desirable Qualifications :** (i) Ph.D. degree in Physical Chemistry, (ii) Experience in handling/development of software for instrumentations.

## GENERAL CONDITIONS

**1. Promotion Prospects :** DRDO offers excellent opportunities for career advancement as Scientists. Result-oriented motivated scientists can look forward to promotions to following grades of scientists :

(i) Scientists 'D' : Rs. 3000-4500, (ii) Scientist 'D' : Rs. 3700-5000, (iii) Scientist 'E' : Rs. 4500-5700, (iv) Scientist 'F' : Rs. 5100-6300, Scientist 'G' : Rs. 5900-7300.

**2. Age Limits :** (i) For Scientist 'B' : Not exceeding 28 years. (ii) For Scientist 'C' not exceeding 35 years, (iii) For Scientist 'D' not exceeding 45 years, (iv) For Scientist 'F' not exceeding 45 years. Age is relaxable by 5 years in case of Govt. servants and those belonging to Scheduled Caste and Scheduled Tribes communities. Crucial date for determining age is 21 March 1988.

**3. Method of applying:** Neatly type-written applications should be sent to Director, Recruitment & Assessment Centre, Lucknow Road, Timarpur, Delhi-110 007, preferably by Registered cover, superscribed "Application for the post of Scientist—" "Item No.—" on plain paper in the prescribed format (reproduced below) accompanied by a crossed non-refundable Postal Order of the value of Rs. 8/- drawn in favour of Senior Accounts Officer, Recruitment & Assessment Centre, DRDO, payable at New Delhi. There is no fee for SC/ST candidates. Last date of receipt of applications is 21 March 1988. In respect of candidates from Andaman & Nicobar Islands, Lakshadweep and abroad, last date of receipt of applications 7 April 1988.

**4. Method of Selection :** A written test may be conducted for certain posts at selected places. No TA/DA would be admissible for this purpose. Persons called for interview would be reimbursed actual train/bus fare by shortest route limited to second class rail fare from the normal place of residence to the place of interview.

5. Only Indian nationals need apply.

6. Candidates should send two self-addressed unstamped envelopes of 23 x 10 cms alongwith the application.

7. One copy of recent passport size photograph should be pasted on right hand corner of the first page of application.

8. Attested copies of certificates testimonials should be attached to the application form. Self attested copies will be accepted. **NO ORIGINALS SHOULD BE FORWARDED.**

9. Candidates will have to produce original certificates at the time of interview.

10. Incomplete applications or those received late will be rejected and no correspondence would be entertained in this regard.

11. In case SC/ST candidates are not available in requisite number, general candidates will be considered for the posts reserved for SC/ST.

12. Candidates Working in Government/Public Sector Undertakings/Autonomous Organisations must apply through proper Channel. They shall not be interviewed if they fail to produce 'No Objection' Certificate from their employer at the time of interview.

13. Prescribed essential qualifications are the bare minimum and mere possession of the same does not entitle any candidate to be called for interview.

14. Candidates desirous of applying for more than one post may apply separately for posts indicating Item No. of the posts.

15. Candidates on appointment will have the opportunity to carry out Ph.D. with external registration and may be sponsored for doing M. Tech.

16. Opportunities are also available for study leave for carrying out higher studies abroad.

17. DRDO Officers may be sponsored for training abroad.

18. Though initial place of posting is indicated against some of the posts, yet candidates have the liability to serve anywhere in India.

19. Handwritten applications will not be entertained.
20. Number of posts against each item is tentative and may vary.
21. All extra sheets used by the candidates MUST be duly authenticated by them.
22. Knowledge of French, German, Russian, Japanese and Chinese is a desirable qualification for all posts.

**CANVASSING IN ANY FORM WILL MEAN DISQUALIFICATION**

**APPLICATION FORMAT**

Application for the post of Scientist \_\_\_\_\_, Item No. \_\_\_\_\_

1. Advertisement No. :
2. Item No. :
3. Details of Postal Order (s)  
No., Date and Amount :
4. Name in full (Shri/Smt/Km)  
(in block letters)
5. (a) Date of Birth :  
(In Christian era in figures)
- (b) Age as on 21 March 1988 :
6. Nationality :
7. Marital Status :
8. Father's/Husband's Name :
9. (a) Address for Correspondence :  
(b) Permanent Address :  
(in block letters with Pin Code)
10. Nearest Railway Station :
11. Whether belong to SC/ST :  
(If yes, attach Certificate)
12. Educational Qualifications :

Affix passport  
size latest  
photograph

Sl. No.	* Course Passed	University/ Institution Board	Year of Passing	Subject taken	Percentage of marks

\* In Chronological order from X standard (SSLC, HS/HSC) onward.

13. Professional Training :

Organisation	From	Period	To	Details of Training

14. Employment Record :

Name & address of the employer/ institution	Period of service from to	Designation of the post held	Scale of pay of each post	Detailed descrip- tion of work	Reason for leaving

15. Present basic pay :

Other allowances :

Total emoluments :

16. (a) Are you a Govt. Servant :

(b) If yes, whether Central/State/UT Govt.

(c) If not, whether employed in undertaking/autonomous body under Central/State Govt.

17. Minimum joining time required :

18. Resume of research work/experience, if any :  
 19. Number of papers published (enclose list) :

20. Field of special interest :

21. Are you under any contractual obligation to serve Central/State Govt./Any other public sector undertaking or Autonomous body and if so the details .

22. Details of relatives employed in DRDO :

Name of Relative	Relationship	Lab/Estt in which employed	Post held

23. Have you applied for any post in DRDO during the past two years? If yes, give particulars :

Sl. No.	No. and Date of Advt.	Name of Post/ Discipline	Date of interview	Remarks

24. Any other information you may wish to add :  
 (use separate sheet if necessary),

25. Declaration :

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed/distorted. If at any time, I am found to have concealed/distorted any material information, my appointment shall be liable to summary termination without notice/compensation. I will, if and when required, take up duty in the discharge of government assignments anywhere in India.

Place  
Date

Signature of Candidate  
davp 87/607

## INSTITUTE FOR PLASMA RESEARCH

(An Autonomous Institute of Dept. of Science & Technology)

Government of India

Near Indira Bridge, Gandhinagar Highway  
BHAT, GANDHINAGAR-382 424

ADVT. No. 01 '88

The Institute for Plasma Research is an autonomous Institute of the Department of Science and Technology, Government of India. Its primary objective is to conduct research in Plasma Physics and related areas. Plasma Physics has been identified as a thrust area by the Department of Science and Technology, requiring intensification of research. IPR offers the following research programmes for bright and motivated young candidates.

### SUMMER PROGRAMME

Students of M. Sc. (Physics) who have completed their first year of study are eligible to apply for this programme. Selected candidates will be provided the opportunity to interact actively with scientists of IPR in the frontier research areas of Plasma Physics for six weeks from May 23-July 1, 1988. The participants will receive a consolidated stipend of Rs. 750 - payable in three fortnightly instalments of Rs. 250/- each for six weeks, to and fro second class rail fare by shortest route and free hostel accommodation. Deadline for applications is April 10, 1988.

### Ph.D. PROGRAMME

The basic entry requirement for the Ph.D. programme is M.Sc. in Physics and those appearing in the final examination are also eligible to apply. Selection will be on the basis of personal interview at the Institute and the travel expenses for the same by second class to & fro rail fare by shortest route will be provided. The selected candidates will undergo requisite course work, mainly during the first year. The scholarship is Rs. 1400/- p.m. during the first two years. Subject to evaluation it may be increased to Rs. 1500/- p.m. in the next two years and Rs. 1600/- p.m. for the fifth year. Normally the Ph.D. Programme is for 5 years and on its successful completion a few candidates with exceptional skills and talent may be offered regular positions in the Institute. Deadline for applications is April 10, 1988.

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# Embassy of the Republic of Iraq

## VACANCIES IN THE UNIVERSITY OF MOSUL, MOSUL-IRAQ

The Embassy of the Republic of Iraq, Cultural Office, 169 Jor Bagh, New Delhi-3, has the honour to invite applications from prospective candidates for its University of Mosul, Mosul Iraq, for the year 1988-89. The candidates are advised to register themselves with the Ministry of Personnel and Training, Foreign Assignment Section, North Block, New Delhi, if already not done :

### **Architecture**

Qualification Required : M. Arch. with 5 years of exp.

1. Residential Buildings
2. Construction Buildings
3. City Planning
4. Theory & History of Architecture
5. Industrial Buildings
6. Sports Buildings
7. Interior Design
8. Landscape Design
9. Transportation Buildings

### **Computer Science**

Qualification Required : Ph D. with 5 years of exp.

1. System Software
2. Computer Architecture
3. Operating System
4. Telecommunications & Computer Networks
5. Computer Science (Graphics)
6. Data Structures & Algorithms
7. System Analysis & Design
8. Data Bases
9. Computer Languages

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4. Periodontology
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### **TERMS AND CONDITIONS**

1. A holder of M.D./M.S./Ph.D. will be granted a monthly salary of I.D. 400/- plus I.D. 10/- for each year of experience after the above stated degrees.
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5. Full protection is ensured as per the Iraqi laws.
6. Initially the period of contract is one academic year and likely to be extended on mutual consent.
7. The relevant institution/university undertake to pay the medical fees of the foreigners and their family members in public hospitals.
8. Annual leave is 45 days in general.
9. No income tax is payable on the salary.
10. Remittance allowed is 40%.

# Postgraduate Institute of Medical Education & Research

CHANDIGARH-160012

## Admission Notice No. 1/88

### CLOSING DATE FOR THE RECEIPT OF APPLICATIONS IS 30th MARCH, 1988

Applications on prescribed form are invited for the following postgraduate/post-doctoral courses etc. for the academic session starting from first July, 1988 :

#### I. First Year Junior Residents (for MD/MS Courses) in the following Subjects

##### (a) Clinical Group—40

Anaesthesia(10), Dermatology(2), ENT(3), Medicine(8), Obst. & Gynae(3), Paediatrics(3), Psychiatry(1), Ophthalmology(2), Radio-diagnosis(2), Surgery(6).

##### (b) Para Clinical Group—9

Microbiology(1), Pathology(4), Pharmacology(4)

(i) Those completing their internship after 30.6.88 are not eligible.

(ii) Candidates can apply for a maximum of two subjects in clinical group. They can apply for all the subjects in para clinical group. However, only one application needs to be submitted. The choice of subjects may be indicated in the relevant column of the application. Application fee is Rs. 30/- per subject.

(iii) 22 1/2% of the seats in each of the above mentioned groups are reserved for candidates belonging to Sch. Castes/Tribes. In addition, 5% seats are reserved for candidates who have served or are serving or have

carried on private practice in rural areas for a minimum period of two years.

(iv) A limited number of sponsored/deputed candidates may also be accepted for the courses mentioned above and also for Orthopaedic Surgery & Radio-therapy.

#### II. Senior Residents—15 (for DM M Ch. Courses) in the following Subject :

##### D.M.

Cardiology

—2

Cardiovascular Thoracic Surgery

—2

Clinical Pharmacology

—2

Neuro-Surgery

—2

Endocrinology

—1

Paediatric Surgery

—2

Neurology

—3

Urology

—1

(i) One post each in the subjects of Cardiology, Neurology, Cardiovascular & Thoracic Surgery and Paediatric Surgery is reserved for candidates belonging to Sch. Castes/Tribes.

(ii) A limited number (1—2) of sponsored/deputed candidates may also be accepted in all the subjects mentioned above as also for DM course in Gastroenterology and M.Ch. course in Plastic Surgery. No seat for sponsored/deputed candidates will however, be available for D.M. course in Cardiology and M. Ch. courses in Neuro Surgery and Paediatric Surgery.

(iii) Upper age limit on 1.6.1988—Not more than 35 years for general candidates and 40 years for candidates belonging to Sch. Castes/Tribes and for ex servicemen and commissioned officers including E.C.O./S.S.C.O.'s, who have rendered atleast 5 years military service and have been released on satisfactory completion of assignment (including those whose assignment is due to be completed within 6 months). No upper age limit restriction for deputed/sponsored candidates.

(iv) Candidates due to appear in MD/MS examinations during April-May, 1988 can also apply. If otherwise found eligible they will be admitted to the entrance test only if they supply the result of their examination from the University concerned atleast a day before the entrance test.

#### III. Ph.D Programme

Vacancies exist in the following departments :

Anaesthesia, Biochemistry, Biophysics, Expt. Medicine, ENT, Haematology, Immunopathology, Microbiology, Morbid Anatomy, Obst. & Gynae, Psychiatry including Clinical Psychology, Parasitology, Pharmacology and Virology.

IV. Second Year Junior Residents—2 for M.D.S. Part I course in the specialty of Pedodontia and Preventive Dentistry. One post is reserved for candidates belonging to Sch. Castes/Tribes.

V. Diploma in Immunohematology & Blood Transfusion

VI. M.Sc. Medical Technology (Pathology) with Cytology or Haematology or Immunopathology or Morbid Anatomy as a special subject.

VII. M.Sc. Medical Technology (Microbiology) with Bacteriology or Parasitology or Virology as a special subject.

VIII. M.Sc. Medical Technology (Radiology) with Radio-Diagnosis or Radiotherapy as a special subject.

IX. M.Sc. Medical Technology (Biochemistry).

X. First Year Junior Residents—2 (One reserved for Scheduled Castes/Tribes) for the department of Dentistry for a period of 6 months. Those who have already completed or will complete First Year Junior Residency or House Job for one year by 31.7.88 are not eligible.

#### General Information

1. Candidates other than those belonging to Sch. Castes/Tribes having more than one failure during MBBS (for category I) and BDS (for categories IV and X) course are not eligible. Sch. Castes/Tribes candidates with upto two failures in their MBBS/BDS career will be eligible.
2. Those applying for the reserved seats must append, with their applications, a certificate from the District Magistrate concerned in support of their claim. No other certificate will be entertained.
3. For courses at categories V to IX above candidates will be considered for admission.
4. The courses at categories IV and X are provisional and is subject to change without prior notice.
5. The number of vacancies indicated in the various courses is provisional and is subject to change without prior notice.
6. The application must be accompanied with non refundable fee of Rs. 30/- in the form of postal order drawn in favour of the Director for each of the courses mentioned above. A candidate applying for more than one subject/course is required to submit separate application, complete in all respect for each subject/course, except for category No. 1.
7. Application form and detailed information are available from the office of the undersigned either personally on payment of Rs. 5/- at the counter from 11 A.M. to 12 Noon and 3 P.M. to 4 P.M. on all working days or by post for which the request must be accompanied with a self addressed envelope size (23 x 10 cms.) bearing postage stamps of Rs. 3.40 and crossed postal order for Rs. 5/- drawn in favour of the Director.

REGISTRAR

# Council of Scientific & Industrial Research

## ADVERTISEMENT No. 2/88

The CSIR is seeking to appoint a Scientist-F for its National Chemical Laboratory, Pune. The NCL is situated on a 479 acres campus on the southern part of Pune. It has excellent laboratory and pilot facilities. The Institute has an annual budget of about Rs. 11 crore, S & T staff of over 1150 of whom around one-third are scientists. The present R & D programmes of NCL are broadly in the areas of Inorganic, Organic and Physical Chemistry, Catalysis & Catalysts, Polymer Chemistry and Engineering Process Development, Biological Sciences, etc.

The Scientist will serve as the Head of one of the Organic Chemistry Groups and would be responsible among other for :

- developing the Group into a national S & T resource,
- providing scientific leadership to the diverse R & D sub-groups in the areas of synthetic, organic, heterocyclic chemistry and in chemistry of pesticides, drugs, etc.
- promoting interlaboratory and interagency R & D programmes,
- negotiating and acquiring R & D grants/contracts,
- man-management.

The candidate must be a doctorate in chemistry/chemical engg., creative, innovative and well established scientist/technologist preferably below 50 years of age. He should have a broad scientific and technical vision, a demonstrated ability to create an environment conducive to nurturing a high-class R & D; a proven record of inter-personal skills and an ability to communicate effectively.

This is a contractual appointment for a period of six years in the scale of pay of Rs. 5100-150-5700-200-6300 plus allowances as admissible. Consultancy is permitted with a ceiling on annual remuneration receivable at Rs 15000; the ceiling is likely to be revised upwards. Residential accommodation would be provided on payment of prescribed licence fee.

A duly constituted Screening Committee will decide on the number of Scientists to be invited to meet the full Selection Committee. The decision of the Council in this behalf will be final. Applications from employees working in Govt. Departments, Public Sector Organisations and Govt. funded research agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within three months of receipt of the appointment orders.

Standard proforma for submitting the curriculum vitae and the literature about the laboratory can be had, on request, from the Joint Secretary (Administration), CSIR, Rafi Marg, New Delhi-1. The last date for receipt of curriculum vitae is 30th April, 1988. Further information, if required, can be had from the Director, National Chemical Laboratory, Pune-411008.

# CLASSIFIED ADVERTISEMENTS

## UNIVERSITY OF BOMBAY

### DEPARTMENT OF CHEMICAL TECHNOLOGY, MATUNGA ROAD, BOMBAY 400 019, INDIA

Applications are invited in the prescribed form for the following posts in the University Department of Chemical Technology :

Sr. No.	Designation of the Post	No. of Posts	Post reserved for (SC ST and NT)	Open Category
1.	Professor of Chemical Engineering	1	—	1
2.	Professor of Medicinal Chemistry	1	—	1
3.	Professor of Engineering	1	—	1
4.	Reader in Biochemical Engineering	± 1	—	1
5.	Reader in Microbiology	± 1	—	1
6.	Reader in Pharmacy	1	—	1
7.	Reader in General Engineering	1	—	1
8.	Lecturer in Technology of Paints and Varnishes	1	—	1
9.	Lecturer in Pharmacognosy	1	—	1
10.	Lecturer in Textile Chemistry	1	—	1
11.	Lecturer in (General) Engineering	1	—	1
12.	Reader in Mathematics	1	—	1
13.	Lecturer in Mathematics	1	*1	—
14.	Lecturer in Colour Physics	± 1	—	1

The Pay-Scales of the posts are as follows :

**Professor :** Rs. 1500-60-1800-100-2000-125-2-2500;

**Reader :** Rs. 1200-50-1300-60-1900;

**Lecturer :** Rs. 703-40-1100-50-1600.

In addition to pay, Dearness Allowance, House Rent Allowance and Compensation Local Allowance will be paid according to the University rules. The total emoluments at the minimum of the respective pay-scales at the current rates of allowances are as follows :

**Professor :** Rs. 3508.35

**Reader :** Rs. 3158.35

**Lecturer :** Rs. 2243.00

A higher starting pay may be given to persons appointed to the posts of Professor and Reader in special cases.

All posts carry the retirement benefits according to the existing rules of the University. Teachers of the University are permitted to take up outside work according to the University rules. The appointments to the posts, except otherwise stated, will be made on probation for two years but the probationary period may be reduced by the Executive Council in special cases. Candidates belonging to the Scheduled Castes, Scheduled Tribes, Denotified Tribes and Nomadic Tribes so notified for the state of Maharashtra will alone be considered for the reserved posts. If suitable candidates from the Backward Classes are not available, other candidates will be considered for appointment on purely temporary basis. Candidates only from Backward Classes should apply for the posts at serial number 13.

The minimum qualifications prescribed for the posts at serial numbers 1 to 11 are as under :

#### Professor

An eminent scholar with published work of high quality, actively engaged in research. Ten year's experience of teaching and / or research. Experience of guiding research at doctoral level.

Or

An outstanding Engineer/Technologist with established reputation who has made significant contribution to knowledge.

#### Reader

Good academic record with a Doctor's degree in a relevant field. About five year's experience of teaching and/or research and development.

Provided further that candidates not possessing a Doctor's degree may be considered if they have to their credit equivalent research published work or design/development work of high order either in the institution or in an Industry.

Or

In the case of persons to be recruited from Industry or professional field candidates should possess good academic record with recognised professional work of about seven years which should include innovation and/or research and development.

#### Lecturer

(a) Master's degree in appropriate field in Engineering, Technology, (b) Consistently good academic record with a Bachelor's degree in Engineering/Technology. First Class at Bachelor's degree and/or Master's degree level, (c) One year's relevant professional experience outside academic/research Institutions.

Having regard to the requirements of emerging fields of Engineering and/or developing inter-disciplinary programmes, the requirements of Engineering/Technology degrees may be waived in the cases of otherwise well qualified candidates.

Provided further that if a candidate does not possess professional experience or a person possessing such experience

is not found suitable, the person appointed will be required to obtain desired professional experience within a period of five years of his appointment, failing which, he will not be able to earn future increments until he fulfils this requirement.

The minimum qualifications prescribed for the posts at serial number 12 to 14 are as under :

#### Reader

Good academic record with a doctoral degree or equivalent published work. Evidence of being actively engaged in (i) research or (ii) innovation in teaching methods or (iii) production of teaching materials.

About five year's experience of teaching and/or research provided that at least three of these years were as Lecturer or in an equivalent position. This condition may be relaxed in the case of candidates with outstanding record or teaching research.

#### Lecturer

(a) A Doctor's degree or research work of an equally high standard, and

(b) Good academic record with at least second class (C in the seven-point scale) Master's degree in a relevant subject from an Indian University or an equivalent degree from a foreign University.

Having regard to the need for developing interdisciplinary programmes, the degrees in (a) and (b) above may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, candidate possessing a good academic record (weightage being given to M. Phil. or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research of high standard within eight

years of his appointment, failing which, he will not be able to earn future increments until he fulfils these requirements.

The additional qualifications prescribed for the posts are as under :

1. Professor of Chemical Engineering: Expertise in the area of Separation processes, Reaction Engineering, Non-Newtonian Technology, Computer Aided Design will be considered as additional qualifications. The incumbent should have had live contacts with Industry as would be evident from consultation experience.

2. Professor of Medicinal Chemistry: Research experience in one or more of the following is essential—drug synthesis mechanism of action of drugs. Chemistry of natural products, bio-organic chemistry. Industrial Experience as evident from consultation desirable.

3. Professor of Engineering should be actively engaged in research in any branch of Engineering with minimum of five years experience of teaching at graduate and post-graduate level in the fields of design of Chemical equipment, Plant design plant maintenance. Experience in the area of management of workshop and repairs and maintenance of equipment and machine is desirable.

4. Reader in Biochemical Engineering: Basic degree in first class in Chemical Technology Biochemical Engineering Chemical Engineering and Doctorate in the respective field, Extensive teaching and research industrial experience in Fermentation Technology Industrial Microbiology desirable. Experience of guiding research students in any of these fields essential. Publications in journals of standing.

5. Reader in Microbiology: Doctorate in Chemical Technology or Microbiology, with extensive teaching and research experience in Food Microbiology Applied Microbiology with special orientation of Food Fermentation Pharmaceutical Industry. Experience of guiding research students in any of these fields desirable. Publications in journals of standing.

6. Reader in Pharmacy : M.Pharm. or B.Sc. (Tech.) (Pharma.) followed by the Doctor's degree or equivalent research published work or design.

development work or professional work must be in the field of Pharmaceutics or Industrial Pharmacy or Bio-Pharmaceutics.

7. Reader in General Engineering : Desirable : Post-graduate qualification in Electrical Engineering with 7 years experience in Teaching / Research / Professional work.

8. Lecturer in Technology of Paints and Varnishes :

9. Lecturer in Pharmacognosy : M.Pharm. degree with specialisation in Pharmacognosy or Medicinal Natural Products. Desirable : Aptitude for research in Natural Products.

10. Lecturer in Textile Chemistry : Research work in the field of Fibre Chemistry, structure or physio-chemical aspect of finishing. Some Industrial experience desirable.

11. Lecturer in (General) Engineering : Master's degree in Mechanical/Electrical/Electronic Engineering. Experience in workshop and Laboratory activities maintenance areas will be preferred.

Reader in Mathematics : The candidate should possess Ph.D. in Applied Mathematics with specialisation in Mechanics of Solids and Fluids, MHD of a recognised University. He should have research papers published in the journals of repute, experience of guiding research at Doctorate level will be additional qualification. He should also help research activities in solving pure and applied Mathematical problems of Technology students. He should have 7-8 years experience of teaching Mathematics, statistics, Numerical analysis etc. to Engineering and Technology students.

13. Lecturer in Mathematics : The candidates should possess M.Sc., M.Phil. in Applied Mathematics, Fluid Mechanics and/or similar field of specialisation of a recognised University. He should have 4-5 years experience of teaching pure and applied Mathematics, Statistics Numerical Analysis to Engineering students of degree level.

14. Lecturer in Colour Physics : At least two years post Doctoral experience in one or more of the following areas : 1. Electro Microscopy/X-rays; 2. Polymer Physics; 3. Solid State Physics; 4. Spectroscopy/Colour Measurements.

**Explanation:** (i) For determining "good academic record" the following criteria shall be adopted :

(i) A candidate holding a Ph.D. degree should possess at least a second class Master's Degree or must have passed Semester I and II examinations of M.Chem. Engg. / M.Sc. (Tech.) / M.Pharm. degree and completed at least two terms of attendance after his registration for the Master's Degree and have been permitted to change his registration to the degree of Ph.D. in Technology under the relevant regulation.

(ii) A candidate without a Ph.D. degree should possess a high second class Master's Degree and second class in the Bachelor's degree; or

(iii) A candidate not possessing a Ph.D. degree but possessing a second class Master's Degree should have obtained first class in the Bachelor's Degree.

(2) Candidates having secured marks more than the mid-point of the prescribed minimum marks for passing an examination in the second class and the prescribed minimum marks for passing an examination in the first class by a University shall be deemed to have passed that examination in the high second class.

The qualification regarding experience is relaxable at the discretion of the Executive Council on the recommendation of the Selection Committee in the case of candidates belonging to the Scheduled Castes, Scheduled Tribes, Denotified Tribes and Nomadic Tribes.

Eight copies of the application in the prescribed form, together with copies of certificates and the prescribed fee, should be sent in an envelope subscribed with "Application for the post of....." so as to reach the Director, Department of Chemical Technology, Matunga, Bombay-400 019 on or before Monday, the 28th March, 1988. Candidates from abroad, Andaman and Nicobar Island and Lakshadweep may send their applications so as to reach the Director on or before Monday the 11th April, 1988. Candidates who are already employed shall send their applications through proper channel. Incomplete and applications on plain paper will not be

considered. Canvassing, direct or indirect, will be a disqualification.

A set of prescribed forms of eight application can be had at the counter of the Department on payment of Rs. 10/- in cash.

Request for supply of a set of eight prescribed forms by post should be made sufficiently in advance with self-addressed stamped (Rs. 3.80) envelope of the size of 27 x 12 cms. and Crossed Indian Postal Order or a Crossed Demand Draft on Scheduled Bank for Rs. 10/- drawn in favour of "the Director, U.D.C.T., Matunga, Bombay - 400 019 payable at Bombay".

**Note:** \*The post is reserved for candidates belonging to backward classes and is being advertised for the second time.

The posts are permanent. However, appointment are to be made on a temporary basis and are likely to be made permanent.

S.P. Potnis  
DIRECTOR

## UNIVERSITY OF NORTH BENGAL

F. 22 Advt. Estt., '10 R-88

Dated : 19-2-1988

Applications in prescribed forms are invited from Indian Citizens for the following posts :

1. **Reader in History** (Specialisation : Modern Indian History) : Post one

2. **Reader in Commerce** (Specialisation : Personnel Management, Banking —Lien bound but likely to be made permanent) : Post one

3. **Reader at the Centre for Himalayan Studies** (Specialisation in any of the following branches : Sociology & Social Anthropology, Geography & Applied Geography, Political Science, Economics, International Relations, Linguistics, History). The candidates should preferably have experience of inter-disciplinary research and should preferably be conversant with the

languages of the Eastern Himalayan Region. (Post one)

4. **Reader in Computer Science** : Post one (Reserved for S.C.)

**Essential Qualification:** (i) M. Tech. in Computer Science/Radiophysics and Electronics / Applied Physics or an equivalent Degree, or M.Sc. in Physics/ Mathematics or in a relevant/related subject or an equivalent degree of a foreign University with consistently good academic records. (ii) Adequate experience in developing systems software, (iii) Knowledge of Fortran, Assembly language, PASCAL/ALGOL and COBOL/BASIC, (iv) for the post of Reader, ability to guide research workers and to carry out research and development projects.

5. **Lecturer in Economics** (Specialisation : Demography, Statistics/Theoretical Economics or M. Stat. with specialisation in Demography) : Post one

**Scales of Pay :** Reader : Rs. 1200-1900/- and Lecturer : Rs. 700-1600/- respectively with other allowances and benefits as per University rules.

**Qualifications:** For Readers and Lecturer as prescribed by the University Grants Commission. Details of qualifications for Readers and Lecturer as may be obtained with application forms.

Choice of selection committee may not necessarily be confined to those who apply formally. No application except in prescribed application forms will be considered.

Prescribed application forms may be obtained from the office of the Registrar personally on payment of Rs. 5/- (Rs. 3/- for S.C./S.T.) in cash at the University Cash Counter or by sending a self-addressed envelope of 25 x 13 cms. affixed with stamps worth Rs. 3/- accompanied by crossed I.P.O./Bank Draft of Rs. 5/- (Rs. 3/- for S.C./S.T.) in favour of the University of North Bengal. Filled-in application forms (7 copies) along with one self addressed unstamped envelope must reach the office of the Registrar, P.O. North Bengal University, Dt. Darjeeling, Pin : 734430 on or before 8-4-1988.

REGISTRAR

**CENTRAL BUILDING  
RESEARCH INSTITUTE  
ROORKEE (U.P.) 247 667  
Advertisement No. 1/88**

Applications are invited on the prescribed form for the following posts :

1. Scientist 'B'—1 Post (Architecture) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** Ist Class B.Arch. Degree or equivalent from a recognised University/Institute.

**Desirable :** One year experience of architectural designing, preferably with help of Computer graphics, in an organisation of repute.

**Job requirement :** The candidate will be required to work on research studies in the field of architecture and on the design of buildings of various types.

2. Scientist 'B'—1 Post (Chemistry) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** Ph.D. or 1st class degree of Master of Science in Analytical/Inorganic Chemistry from a recognised University/Institute.

**Desirable :** 3 years experience of research and/or teaching on environmental pollution monitoring techniques. Experience / training in the field of modern analytical instrumentation would be an asset.

**Job requirement :** The selected candidate will be required to study the pollution emissions from industries and their impact on building materials and suggest remedial measures.

3. Scientist 'B'—1 Post (Civil Engineering) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** 1st class B.E./B.Tech. in Civil Engg. from a recognised University.

**Desirable :** One year experience in design office or construction field with a reputed organisation.

**Job requirement :** The selected candi-

date will be required to work on R & D and sponsored projects involving structural designing of buildings and/or construction management.

4. Scientist 'B'—1 Post (Chemistry/Material Science) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** 1st class Degree of Master of Science/Technology in Chemistry or in Material Science from a recognised University/Institute etc.

**Desirable :** Brilliant academic record with 1-2 years research experience in Organic Building Materials such as Plastics, IPN Polymeric Systems, Coatings and sealants etc.

**Job requirement :** The selected candidate will be required to carry out R&D work on IPN polymeric systems, coatings, testing and evaluation and durability of plastics and polymer products with special reference to their applications in buildings.

5. Scientist 'B'—1 Post (Fire) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** Ph.D. or 1st class M.Sc. in Organic Chemistry or 1st class B.E. in Chemical Engineering from a recognised University/Institution.

**Desirable :** One year experience in development of fire retardant materials.

**Job requirements :** The selected candidate will be required to work on development of fire retardant treatments for building materials, formulation of fire retardant paints, and development of related technology.

6. Scientist 'B'—1 Post (Civil Engineering) Rs. 2200-75-2800-EB-100-4000 (Total Emoluments Rs. 2706.00)

**Qualifications**

**Essential :** 1st class B.E./B.Tech. in Civil Engineering or equivalent from a recognised University or Institute.

**Desirable :** One year experience in R&D or testing with a reputed organisation.

**Job requirements :** The selected candidate will be required to work on R & D aspects of fire resistance of structural elements & post fire investigations of buildings and structures.

7. Technical Officer 'A' —1 Post (System Analyst) Rs. 2000-60-2300-EB-75-3200-100-3500 (Total Emoluments Rs. 2480.00).

**Qualifications**

**Essential :** Master's Degree in Mathematics, Physics from a recognised University with 2-4 years experience as a

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**programmer/System Analyst or Bachelor's Degree in Mathematics with 5-8 years experience as Programmer/System Analyst.**

**Desirable :** 1 year Diploma or Training in Computer Languages such as BASIC, FORTRAN, COBOL, DBMS from a recognised Institute/Training Centre.

**Job requirement :** The candidate will be required in making Computer Programs and Maintenance of data banks in the field of Project Cost Management and Project Cost Accounting, Pay Roll System and Inventory Control System.

**8. Technical Officer 'A'—1 Post (Information) Rs. 2000-60-2300-EB-75-1200-10%3500 (Total Emoluments Rs. 2480 C0)**

#### **Qualifications**

**Essential :** B.E./B. Tech./B. Arch. in Civil Engineering or Architecture or equivalent with 2-4 years experience of writing and editing technical papers.

**Desirable :** Journalistic editorial experience of technical publications and visual presentations. Good command over English language would be an asset.

**Job requirement :** The selected candidate will be required to take total responsibility of writing and editing and publishing technical papers reports related to Institute's R & D activities. He may also be required to assist in preparation of audio-visual presentations on Institute's R & D.

**9. Technical Asstt Gr. VIII :—2 Posts (For Computer Centre) Rs. 1400-40-1800-EB-50-2300 (Total Emoluments Rs. 1707.00)**

#### **Qualifications**

**Essential :** B.Sc. with Physics & Maths, or Diploma of 3 years duration in Civil Engineering or equivalent from a recognised Institute.

**Desirable :** Diploma in Computer Programming from a recognised Institution or two years experience in Computer Programming in high level languages at a reputed Computer Centre. Experience in Data Management, DBASE III/III plus and graphics languages would be an added advantage.

**Job requirement :** The selected candi-

dates will be required to assist in development of Computer Programmes and Management of the Computer Centre at the Institute.

**10. Technical Asstt Gr. VIII—1 Post (Information) Rs. 1400-40-1800-EB-50-2300 (Total Emoluments Rs. 1707.00)**

#### **Qualifications**

**Essential :** B.Sc. with Mathematics/Statistics from a recognised University/ Institute.

**Desirable :** 1-2 years experience in Electronic Data Processing.

**Job requirement :** The selected candidate will be required to assist in creating and operating data base management system.

**11. Technical Asstt. Gr. VIII—1 Post (Geotechnical) Rs. 1400-40-1800-EB-50-2300 (Total Emoluments Rs. 1707.00)**

#### **Qualifications**

**Essential :** 3 years Diploma in Electrical/Electrical Engineering or equivalent from a recognised Institution.

**Experience :** Operating and maintaining Electronics, Electrical instruments.

## **UNIVERSITY NEWS**

Form IV

(See Rule 8)

1. Place of Publication
2. Periodicity of its Publication
3. Printer's Name  
Whether Citizen of India  
(If Foreigner, state the country of origin)  
Address
4. Publisher's Name  
Whether Citizen of India  
(If Foreigner, state the country of origin)  
Address
5. Editor's Name  
Whether Citizen of India  
(If Foreigner, state the country of origin)  
Address
6. Name and addresses of individuals who own the newspaper and partners or shareholders holding more than one per cent of the total capital.  
I, Sutinder Singh, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-  
Publisher

**Job requirement :** The selected candidate would be required to operate and maintain Electrical/Electronic instruments in the Geotechnical Laboratory of the Institute.

**12. Senior Tech. Asstt.—1 Post (Architecture) Rs. 1640-60-2600-EB-75-2900 (Total Emoluments Rs. 2073.00)**

**Qualifications**

**Essential :** 3 years Diploma or equivalent in Architectural Draftsmanship from a recognised Institution plus 3-5 years experience in Architectural Draftsmanship.

**Job requirement :** The selected candidate will be required to handle work of architectural draftsmanship connected with the R & D and sponsored activities of the Institute.

**13. Senior Tech. Asstt.—1 Post (Civil) Rs. 1640-60-2600-FB-75-2900 (Total Emoluments Rs. 2073.00)**

**Qualifications**

**Essential :** 3 years Diploma or equivalent in Structural/Civil Draftsmanship from a recognised Institution plus 3-5 years experience in Structural Draftsmanship.

**Job requirement :** The selected candidate will be required to handle work of Structural Draftsmanship connected with the R & D and sponsored activities of the Institute.

**14. Asstt. Engineer (Civil)—1 Post Rs. 2000-60-2300-EB-75-3200-100-3500 (Total Emoluments Rs. 2480.00)**

**Qualifications**

**Essential :** 3 years Diploma in Civil Engineering from a recognised Institution with 5-8 years relevant experience or B.E. (Civil) B.Tech. (Civil) with 2-4 years relevant experience.

**Desirable :** The candidate should be well conversant with preparation of estimates, contractor's bills, tender documents, method of measurements and specification of civil works. Experience and knowledge of modern construction, practices will be an added advantage.

**Job requirement :** To control and supervise construction and maintenance of civil works, sanitary and water supply installation, road etc. of the Institute and Staff residential colony.

**15. Security Officer — 1 Post Rs. 2000-60-2300-EB-75-3200-100-3500 (Total Emoluments Rs. 2480.00)**

**Qualifications :** A degree from a recognised university with atleast 5 years' experience in a similar position in

a large industrial undertaking, research laboratory or in Police or Defence services. Candidate should be conversant with modern methods of industrial/laboratory security, fire prevention etc. Should be able to handle fire arms and should possess good physique and personality. Preference will be given to Ex-Army Officer. Age limit 35 years.

**Job requirement :** Will be responsible for security, watch and ward, fire fighting arrangements in the Institute Campus, liaison with local police authority etc. and any other work of responsibility assigned by the Head of the Institute.

**Reservation :** The posts of Scientist B at S No. 3 and 5 are reserved for Scheduled Caste Candidates and S. No. 4 for Scheduled Tribe Candidates. In the event of non-availability of SC/ST candidates the post will be filled by general candidates. The post of Technical Officer A at S. No. 8, Technical Asstt. Gr. VIII at S. No. 10 are reserved for SC candidates only. The post of Tech. Asstt. Gr. VIII at S. No. 9 (1 post) and Sr. Tech. Asstt. at S. No. 13 are reserved for ST candidates only.

The above posts carry usual allowances admissible under the Central Govt. rules as applicable to the Council employees. Appointment to posts at S. No. 1 to 6 will be on contract for a period of 6 years (including the period of probation of two years) in the first instance.

The number of vacancies mentioned against each category is provisional and may vary at the time of selection. If more vacancies with identical job requirements become available, these can also be filled from among the candidates who might apply for the above posts.

Application forms can be obtained (free of cost) from the Administrative Officer, Central Building Research Institute, Roorkee upto 25.3.1988. Separate application form should be submitted for each post. No. of advertisement, name of the post applied for and full address in block letters sent

together with self addressed envelope of size 23 x 10 cm affixed with stamp worth Rs. 1.40 paise for obtaining the application form.

Complete application in the prescribed form separately for each post together with non-refundable application fee of Rs. 8/- (Rupees eight) (SC/ST candidates are exempted from payment of application fee) in the form of crossed Indian Postal Order drawn in favour of Central Building Research Institute, Roorkee should reach this office not later than 11.4.88. Applications must be supported by attested copies of certificates/testimonials relating to educational qualifications, date of birth, experience and original community certificate in respect of SC/ST candidates from the appropriate authority.

A lower standard of suitability consistent with efficiency will be applied in respect of SC/ST candidates. Since it is not possible to call all the candidates for interview, the applications will be shortlisted for the purpose and the decision of a duly constituted screening committee will be final in this regard. Applicants called for interview will be paid single second class rail fare to and fro from the actual place of undertaking the journey or from the normal place of residence whichever is nearer on the production of relevant documents of travel. Applications from employees working in Govt. departments, public sector organisations and Govt. funded research agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within one month of receipt of the appointment orders. Incomplete applications in any respect and those received after due date are liable to be rejected. Services of incumbents shall be transferable anywhere in India.

Canvassing in any form and or bringing in any influence political or otherwise, will be treated as a disqualification.

**INTERIM ENQUIRIES WILL NOT BE ENTERTAINED**

**CENTRAL MINING RESEARCH STATION, DHANBAD**

**(Council of Scientific & Industrial Research)**

**Advertisement No. 1/88**

**Vacancy :** Scientist 'B' — Reserved for S/C, S/T community.

**No. of Post :** Four (Three for S/C and one for S/T).

**Pay Scale :** Rs. 2200-75-2800-EB-100-4000/- Plus usual allowances as per Central Govt. rates Stationed at Dhanbad. Minimum salary at initial stage Rs. 2726/- approx. Details may be seen in the Employment News Dated 27th February '1988.

# MAULANA AZAD COLLEGE OF TECHNOLOGY

BHOPAL 462 007

(A Regional Engineering College)

Advertisement No. Estt R 1/

Applications are invited for the following posts in prescribed forms.

**(A) Professor :**

- (a) Computer Science Engineering
- (b) Civil Engineering
- (c) Electronics

**Scale of Pay :** Rs. 1500-60-1800-100-2000-125 2-2500 (To be revised)

**Essential Qualifications** 1. An eminent scholar with published work of high quality, actively engaged in research. Experience of guiding research at doctoral level.

2. Ten years experience of teaching and/or research.

**OR**

An outstanding Engineer Technologist with established reputation who has made significant contribution to knowledge.

**Specialisation for :** (a) Computer Science Engineering

Programming Languages Operating Systems / Data Processing Artificial Intelligence System Analysis Computer Networks Computer Architecture Computer Graphics

Experience on management of computer of centre and familiarisation with Fourth Generation Computers

**(b) Civil Engg**

- (i) Structural Engineering
- (ii) Fluid Mechanics and Hydraulics/ Environmental Engineering Surveying/Soil Mechanics

**(c) Electronics**

Microwave Communication theory/ Digital Electronics & Micro Processors/ Television Engg Integrated Circuits Fibreoptics Space Communication & Remote Sensing Radar Engg. Antenna Engg Control & Instrumentation.

**(8) Asstt. Professor Electronics**

**Scale of Pay .** Rs 1200-50-1300-60-1900 (To be revised)

**Age :** Not below 30 years

**Essential Qualifications**

Good academic record with a Doctor's degree in relevant field. About

five years experience of teaching and/or research and development

Candidates not possessing Ph D may be considered if they have to their credit equivalent research published work of design development work of high order either in the institution or in an industry.

## Specialisation

Microwave/Communication Theory/ Digital Electronics and Microprocessors/Television Engg. / Integrated Circuits/Fibreoptics/Space Communication and Remote Sensing Radar Engg Antenna Engg. Control & Instrumentation

**(C) Lecturer** (a) Computer Science/ Engg.  
(b) Electronics

**Scale of Pay** Rs 700-40-1100-50-1600 (To be revised)

**Age :** Not below 22 years

**Essential Qualifications**

- 1 Master's degree in appropriate field
- 2 Consistently good academic record First class at B E and or M E. level
- 3 One year's relevant professional experience outside academic research institutions

**Related Qualifications**

First class B F degree holders may also apply for the post but the person if appointed will be required to acquire M E degree within a period of five years of his her appointment, failing which he/she will not be able to earn future increments, until he/she fulfils this requirement

## Specialisation

**(a) For Computer Science Engg**

Programming Languages Operating Systems Data Processing/Artificial Intelligence System Analysis Computer Networks Microprocessors / Computer Architecture

**(b) For Electronics**

Microwave Communication Theory/ Digital Electronics and Microprocessors/ Television Engg./Integrated Circuits/ Fibre optics/Space Communication and

Remote Sensing/Radar Engg /Antennae Engg./Control & Instrumentation

**(D) Foreman (Workshop)**

**Scale of Pay** Rs 650-30-740-35-810-EB-35-880-40-1000-EB-40-1200 (To be revised)

**Age :** Not below 30 years

**Qualifications**

A First or second class Bachelor's degree in Mechanical Engineering with 3 years experience in a reputed workshop in a responsible supervisory capacity

**OR**

A First or Second Class Diploma in Mechanical Engineering with atleast 10 years experience in a reputed workshop in responsible supervisory capacity.

**(E) Registrar**

**Scale of Pay :** Rs 1100-50-1600 (To be revised)

**Age :** Above 45 years

**Qualifications and Experience**

**Essential** A good Degree in Arts, Science, Engineering, Commerce, Business Administration. Considerable administrative experience in a responsible position either in a high academic institution or business organisation of standing or Government Department. Adequate experience in financial affairs, such as budget, accounts, rules and regulations relating to expenditure, experience in handling agenda and minutes of meetings. Knowledge of Government Rules relating to service and establishment matters, familiarity with academic activities and working procedures and development of educational institutions, ability to handle men and stores, capacity to lead.

**Desirable** Wide sympathy for students and colleagues, ability to develop corporate life in residential campus, knowledge of military training, degree in Law

**(F) Deputy Registrar**

**Scale of Pay** Rs 700-40-900-EB-40-1100-50-1300 (To be revised)

**Age :** Not below 35 years.

**Qualifications & Experience**

**Essential :** A degree in Arts/Science/ Business Management, Commerce,

Atleast 10 years experience in a responsible supervisory position in an academic institution/Business Organisation of repute/Govt. Deptt. Experience to be in :

- (a) Financial matters such as budgeting, stores, accounting etc; and adequate knowledge of account rules.
- (b) Academic matters concerning students, examinations university rules and regulations.
- (c) Establishment and legal matters, service rules, regulations and meetings.

**Note : For (F)**

1. Those who had applied earlier in response to Advertisement No. Est/R/3/Dec. '86 need not apply again as their earlier applications will be considered.
2. Qualifications relaxable in cases of outstanding experienced candidates.

**General Instructions**

1. Age and experience relaxable in case of exceptionally outstanding candidates.
2. Candidates serving in the Government / Semi-government / Autonomous organisations should apply through Proper Channel or they should produce 'No Objection Certificate' from the employer at the time of interview, if called. Those who had applied on prescribed application form and through proper channel in response to previous advertisement may send their application on plain paper mentioning further achievements, if any
3. Higher initial pay may be considered in deserving cases.
4. The benefit of CPF-Cum-Gratuity and allowances are admissible according to college rules.
5. Application form can be had from the REGISTRAR, MAULANA AZAD COLLEGE OF TECHNOLOGY, BHOPAL-462 007 on requisition accompanied by self addressed and Rs. 2.20 Paise stamped envelope, 25 x 10 cm size giving (on the top of the cover also) name of the post and advertisement number Estt. (R) 1/Feby/88.

6. Completed applications should reach the REGISTRAR at the above address on or before 21st March, 1988. Incomplete/late applications and those without registration fee of Rs. 7.50 in the form of Crossed Indian Postal Order may not be considered.
7. Adequate number of seats are reserved for SC/ST candidates. Other things being equal preference will be given to candidates belonging to SC/ST. Further details will be made available in the instruction sheet attached with the prescribed application form.

**REGISTRAR**

**GUJARAT AGRICULTURAL UNIVERSITY**

Sardar Krushnagar-385506  
DIST. BANASKANTHA

**FACULTY POSITION**

**EXTENSION OF TIME LIMIT**

Reference our Advertisement No. 2 87,  
3 87, 4 87, 5 87 and No. 1 88.

Dated : 22 February, 1988

In last date for receiving applications in response to the advertisements for faculty position in various disciplines of Agriculture, Veterinary Science, Dairy Science, Home Science, Basic Science & Humanities and Agricultural Engineering faculties published in University News on 13th April, 1987; 27th April, 1987; 11th May, 1987; 20th July, 1987; has been extended upto 31st March, 1988. Those who fulfil required qualifications may apply in response to these advertisements.

Those who have applied in response to above advertisements earlier need not apply again.

The terms and conditions of appointments in the University will *inter alia* include appointment on two year contract basis. Other instruction and conditions remain unchanged.

This condition will also be applicable to the appointment of Principals for which advertisement has been issued vide No. 1/88, dated Sixth February, 1988 in this newspaper.

R.J. Patel  
REGISTRAR

**SARDAR PATEL UNIVERSITY  
VALLABH VIDYANAGAR-388120**

(Gujarat State)  
Notification No. EST 5 (1987-88)

**WANTED**

- I. Professor : Computer Science (MCA Course)  
Pay Scale : Rs. 1500-2500.
- II. Reader in : (1) Animal Science (2) Commerce (3) Library Science (4) Computer Science (MCA Course)  
Pay Scale : Rs. 1200-1900.
- III. Lecturer in (1) Theoretical Chemistry (2) Microbiology  
Pay Scale : Rs. 700-1600.
- IV. Non-Teaching Posts : (1) Technician (Electronics Electrical) for MCA Course-Temporary (2) Jr. Clerk Library (3) Research Associate in Chemistry (Polymer-Temporary)  
Pay Scale : For (1) Rs. 1200-2040 (2) Rs. 950-1500 (3) Rs. 1800 - fixed.

All the posts except at Sr. No. IV (1) and (3) carry benefits of Dearness Allowance, G.P.F., Gratuity & Pension Scheme as per University Rules. Posts at Sr. No. IV (1) carries D.A. only.

Qualified candidates from SC/ST will be given preference. SC/ST candidates must attach bonafide certificate from proper authority.

Prescribed Application forms for the above posts can be had from the University Office on payment of Rs. 5 - in cash or by I.P.O. Details of the qualifications will be supplied with the forms.

The Last date of receipt of Application is 5-4-1988.

N.G. Upadhyaya  
OFFG. REGISTRAR

**INDIAN COUNCIL OF MEDICAL RESEARCH**

**CORRIGENDUM**

for the post of DIRECTORS

- (1) At the Regional Medical Research Centre, Bhubaneswar.
- (2) At the Regional Medical Research Centre, Port Blair.
- (3) At the Rajendra Memorial Research Institute of Medical Science, Patna.
- (4) At the National Institute of Nutrition, Hyderabad.

Application forms can be obtained from the office of the Director General, Indian Council of Medical Research, Post Box No. 4508, Ansari Nagar, New Delhi-110 029.